


# TOUCH AND TECHNIC.

— FOR —

## Artistic • Piano • Playing.



BY MEANS OF A NEW COMBINATION OF EXERCISE-FORMS AND METHOD OF PRACTICE,  
CONDUCTING RAPIDLY TO EQUALITY OF FINGER POWER, FACILITY  
AND EXPRESSIVE QUALITY OF TONE.

— BY —

DR. WILLIAM MASON.

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Vol. I.—TWO-FINGER EXERCISES (School of Touch),	.	.	.	.	.	\$1.00
Vol. II.—COMPLETE SCHOOL OF SCALES (School for Brilliant Passages),	.	.	.	.	.	1.00
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Vol. IV.—SCHOOL OF OCTAVES AND BRAVOURA,	.	.	.	.	.	1.00

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This illustration shows the correct hand-position at the piano, as drawn from Dr. Mason while playing.

# TOUCH AND TECHNIC;

OR,

## THE TECHNIC OF ARTISTIC TOUCH

BY MEANS OF THE TWO-FINGER EXERCISE.

### PREFACE TO REVISED EDITION.

Advantage is taken of the demand for a new edition of Volume I of "Touch and Technic," to rearrange the material and make certain additions in order to render it clearer, more convenient for teachers not previously accustomed to the system, and better arranged for gradation, according to the demands of pupils in different stages of progress.

### INTRODUCTION TO THIS EDITION.

#### A SHORT HISTORY OF THE TWO-FINGER EXERCISE.

The two-finger exercise in its primitive form is one of the oldest known devices for strengthening and individualizing the fingers. It is found in most of the piano instruction books of the last century and appears also in the more modern works of Clementi, Hummel, and Czerny.

The author of this work claims no originality as to the exercise itself, but solely as to its *manner of treatment* as set forth in the following pages, the main features of which are: (1) Its adaptation to metrical and rhythmic forms through varieties of grouping and accentuation. (2) The cultivation of strength and stability as well as lightness and speed in playing by means of the "graded sequence" and "velocity" forms. (3) The development of a *musical* as well as mechanical legato quality of touch by means of the employment of the diverse and varied muscular movements which contribute thereto.

These things in proper combination enhance the value and efficacy of the two-finger exercise in a wonderful degree, because they involve the cultivation of phrasing and expression as well as of mere muscular strength and dexterity; of firmness and elasticity; of light and shade; and of repose in action which is so necessary to a finished and artistic style in playing.

The author's attention was first directed to the two-finger "*motif*" during his stay in Weimar, Germany, in the years 1853-54. At that time Liszt's pupils were few in number, only three, in fact, viz., Dionys Pruckner, Karl Klindworth, and the writer. One day the boys were discussing the subject of mechanical technic and wishing for some little "*multum in parvo*" exercise, which should be so comprehensive and far-reaching in its results as to do away with a multiplicity of exercises, and acting like magic, accomplish the whole thing *instantly* and thus obviate the necessity of slow plodding. They finally referred the matter to Liszt, and his reply was that inasmuch as all pianoforte pieces consisted of scale, arpeggio, chord, and octave passages, the practice of these could never be wholly dispensed with; but, he continued, "of all exercises of which I have knowledge, for stimulating, strengthening, and limbering the fingers, this simple little exercise is the most effective." He went to the piano and played the two-finger exercise in the form presented on page 22, and numbered 8, but without observing any particular metrical form. "You know," he continued, "that I have given up my concerts and public playing, but when occasionally I do play in private for my friends and feel the need of preparation, I practice this exercise solely and for two or three hours uninterruptedly. As a result I regain my full technic without practice of anything else, either exercise or piece." Tausig, who got this exercise from Liszt at a later

period, also held it in high esteem, and, according to the testimony of many of his pupils, he used it in his individual practice more than any other form of exercise.

Shortly after the writer began his work as a teacher, in the year 1855, he first conceived the idea of developing and increasing the usefulness of the exercise by means of the varied treatment explained in the following pages, and he has continued it ever since with invariably the best results.

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## INTRODUCTION.

### GENERAL FEATURES AND PECULIARITIES OF THE SYSTEM.

#### Of Touch in General.

SECTION 1. The object in view is to lay the foundation of, and to build up, a good pianoforte touch and technic in the shortest possible time, and after this has been accomplished, to keep the muscles which are employed in such a touch in the highest state of training, through the continued and daily use of the exercise best adapted to that end. Success in this undertaking depends entirely on the method of practice. In itself, the two-finger exercise is as simple and elementary a form as can well be devised, but through the application of different kinds of touch to its various forms, it becomes comprehensive and exhaustive in its results, because it searches out and brings fully into action, in the most complete and thorough manner, nearly all of the muscles which are used in pianoforte playing. The truth of this assertion may not at first appear, but is easily demonstrated on investigation, and is quickly wrought into the experience of those who give the matter a faithful and persistent, if only a short, trial.

The elements of strength and elasticity are both essential to a good pianoforte touch, and in accordance with their presence in varied degree and combination will be the tone-color, or quality of tone produced. The application of mere force without elasticity produces a hard, piercing, and unsympathetic tone. On the other hand, an undue exercise of elasticity results in a characterless tone. The combination of the two principles in right proportion accomplishes the desired result. The strength furnishes the staying power and backbone, so to speak, and the elasticity mellows and tempers the tone by supplying the needed buoyancy and springiness. Elasticity of touch is gained through the proper use of the flexor and extensor muscles, extending from fingertip to elbow, acting in harmonious union with various muscles of the upper arm, of which the *triceps* is the great extensor of the elbow-joint, while the *biceps* and *brachialis anticus* are the antagonistic flexors. Of these the *triceps*, which lies upon the outer part of the upper arm, affords practically the key to the whole situation, and careful attention to its proper action in playing will in a short time bring about results which can be attained in no other way. This is due to its important influence in the development of a generally relaxed muscular condition and to its powerfully effective agency through these means in the production of a musical and resonant quality of tone, which is, at the same time, pervasive and singing in character and of great carrying power. (See Section 26.)

Supple and flexible muscles are indispensable in the production of a musical and sympathetic tone. On the other hand, a hard and heartless tone is the natural result of stiff and rigid muscles.

Until up to within a comparatively recent date, the thorough and systematic training of the muscles under consideration has been in a great degree neglected, or, at least, they have received nothing like the attention they deserve, but the importance of such training is now beginning to be recognized. It is not intended to claim that through the employment of any merely mechanical means a truly emotional touch can be acquired. Such a touch is inborn, and, as the Germans aptly express it, "of the grace of God." But a discriminative and versatile touch, as regards quality and power, is within the reach of every one who will properly bring into action and training the God-given muscles common to us all. In order to accomplish this the daily practice should not be regulated solely with a view of acquiring strength, but a good portion of time and attention should be given to the use of that particular kind of touch

especially adapted to the development of the various muscles, by bringing them into full play and giving the utmost scope to their freedom of action, both as regards elasticity and speed.

SEC. 2. By TOUCH is meant the art of eliciting tone from the pianoforte. Touches may be classified according to the tone qualities and effects they produce, as legato, staccato, demi-staccato, portamento, etc.; or according to the particular part of the muscular apparatus most active in eliciting the tone, as arm touch, hand touch, finger touch, etc.

In all forms of touch the various muscles from the shoulder to the fingertips co-operate to such a degree that in the inaction of any one of them it would be impossible for the others to elicit the precise tone quality desired; nevertheless the touches are easily to be discriminated, as already said, according to the predominant activity of one part of the muscular apparatus above the others. Thus, for instance, when the lightest possible caress of the points of the fingers has been delivered to the keys, the hand, forearm, and upper arm have all helped by furnishing the necessary solidity of repose—the fulcrum against which the levers of the fingers have moved themselves. Or, in the touch farthest away from the light finger-caress just mentioned—the fall of the arm with its full weight upon the keys—the fingers are still very much concerned, since it is their important office to distribute the force to the proper tones of the chord; the hand and forearm meanwhile are equally important, because they constitute the medium through which the fall of the arm reaches the keys, producing the desired tonal effect. Thus, whatever the kind of tone desired, it is indispensable to have all parts of the apparatus in working condition, ready for transmitting the will-impulse,—the actual motor in producing tonal combinations.

In common speech the expression "striking the key" is sometimes used. Although allowable as a matter of convenience, it must be understood and never be lost sight of that the finger must *fall* upon the key rather than strike it. At the moment of contact, which does not mean *collision*, the finger settles upon the key with a determined and resolute pressure, which is, however, tempered by an immediate relaxation or yielding of the muscles throughout the arm,—Delsarte would call it "devitalized;" the key is then held firmly, but without stiffness or inflexibility. The character of hardness or austerity must be avoided. That there will be more or less contraction of the muscles at the moment of contact goes without saying. But do not understand this word contraction to be synonymous with rigidity. For example, the good qualities of courage, resolution, firmness, and fortitude must not be confounded with their counterfeits,—bravado, obduracy, obstinacy, and stubbornness, whatever fancied resemblance there may be between them.

SEC. 3. The name "TOUCH AND TECHNIC" has been selected as an appropriate designation for a system of training which aims at developing, synthetically as well as analytically, all the various forms of finger-facility commonly embraced under the name of "technic;" and in connection therewith the education of a *deep, full, light, expressive touch*, without which no musical playing is possible.

The component elements of first-class piano-playing are the following:

*Tune* (as regards the pianoforte, accuracy of execution).

*Time* (attention to meter and rhythm).

*Quality of Tone* (by different gradations and methods of touch).

*Expression or Phrasing* (through quality of tone as produced by different kinds of touch, and by inflectional emphasis and accent).

*Facility of Execution, and at the same time Repose* (in passages of every variety of speed).



The exercises in this system contain all these elements, or the germs of them, and are intended to bring them into action and use from the very outset. Inasmuch as the qualities enumerated above are all factors in the composite unit, *good playing*, no one of them can be neglected at any stage without impairing the general result; and the habit of attending equally to each and every one of them simultaneously must be acquired at the earliest possible moment. This is not so difficult as has generally been supposed, nor is it in violation of the principle of "one thing at a time." There is but one "thing," which is the interpretation or expression of the musical idea; but this one thing properly considered requires equal attention to all the factors enumerated. The material and opportunity for musical expression afforded by a two-finger exercise is indeed limited, for the "*motif*" contributes but little to interest the hearer. Scales, arpeggios, chords, and octave passages afford a wider scope. But exercises need not be played in a dry, perfunctory, and exclusively mechanical way. Under the fingers of an artist, expert in the act of eliciting a fervent and musical tone by means of a touch adapted to that end, they take on new life and interest. It is this certain *musical habit* which the novice must strive for early in the beginning and keep constantly in mind at every successive step. Remember that an "ounce of prevention is worth a pound of cure," and "a stitch in time saves nine," and avoid sowing the seeds of mere mechanical playing, which, devoid as they are of musical feeling, can naturally beget only their own kind.

A player of native musical temperament always plays *musically* by instinct, and such playing never lacks phrasing, nuance, and expression, even in the practice of exercises,—for to play otherwise would be to do violence to his musical nature.

A player who lacks these finer perceptions must nevertheless learn from the example of one who possesses them, and follow, so far as possible, in his footsteps.

The student should in every way avail himself of every possible advantage and surround himself with a musical atmosphere, so to speak. A very important and valuable accessory and aid to this is a fine instrument,—one with a beautiful singing and resonant quality of tone together with a delicately adjusted and responsive action, for these things are powerful helps in the acquirement of a good touch. The celebrated pianist, Thalberg, noted for his lovely touch and tone, once remarked to the author that an instrument possessing these qualities not only aided in the formation of a habit of sympathetic touch, but more than that, it really suggested musical ideas and allured the player into a mood for composing. Do not be led astray by the idea that "any piano is good enough for a beginner," nor by the direction to "first get the notes right, then the expression." A better motto is, "while getting the notes right, attend also to the expression." Experience shows beyond controversy that better results follow this course.

### Synopsis of Touch and Technic.

SEC. 4. This system of "Touch and Technic" consists of four different kinds of passage (or exercise), and it is intended that the pupil practice something of each class every day, excepting when for good reason one element or another may be temporarily intermitted, namely:

1. *Two-Finger Exercise*. ("Touch and Technic," Vol. I.)
2. *Metrical Scales*. ("Touch and Technic," Vol. II.)
3. *Metrical Arpeggios*. ("Touch and Technic," Vol. III.)
4. *School of Octaves and Bravours*. ("Touch and Technic," Vol. IV.)

The daily practice is intended to include these different kinds of exercise, each in turn, for a comparatively short time only,

and no one of them to excess. By this method of practice the burden of the student is made as light as possible and no one set of muscles or faculties is over-exercised. At the same time, through the system of metrical elaboration the attention is absorbed and concentrated to a degree otherwise unattainable in the practice of exercises.

Inasmuch as a musical and discriminative touch intelligently applied is the most important part of a player's outfit, Volume I of "Touch and Technic" is exclusively devoted to this part of the training. Its object is to thoroughly train the hands and fingers in all those varied manners of touching the keys, without which the different tone-tints and musical effects required in the compositions of the greatest tone-poets cannot receive adequate expression. With this end in view it aims to form the indispensable practical complement to the distinctly musical material through the study of which the musical faculties themselves are rendered sensitive and deepened, the tone-perceptions more delicate and discriminating, and musical feeling more refined and spiritual.

SEC. 5. Volumes II, III, and IV cover different ground, which must now be considered. Pianoforte passages consist either of scales, arpeggios, chords, or octaves. These in the aggregate comprise the totality of brilliant pianoforte technic. They are not generally played in the deliberate and impressive manner appropriate to melody, but with speed, brilliancy, and at times with almost inconceivable lightness and delicacy. The effective execution of this part of the playing has long been regarded as the distinguishing mark of a well-trained pianist, and instruction books and manuals of technics have furnished a great number of typical forms intended for training in this direction. All arbitrary combinations of tones devised for practice have, however, the great disadvantage of being vacant of meaning, nor is it possible by simply repeating them over and over to build up out of them significant unities. The habitual reiteration of them in daily practice engenders mental habits of the most careless description, and owing to their tiresome character and arbitrary construction, the fingers derive from practicing them but limited aid toward overcoming the difficulties offered by well-made bravours pieces.

SEC. 6. In the effort to surmount these unfavorable elements of practice, the author conceived the idea of putting the scales and arpeggios,—the radical elements of brilliant passage playing,—into metrical form, the sole object at first being to compel close attention on the part of the pupil; in other words, to secure mental concentration. Successful results were immediate and gratifying beyond expectation. Pupils invariably expressed themselves as greatly interested in, and pleased with, the new way of practicing. Apathy gave way to earnestness and well-directed effort took the place of aimlessness. Another advantage not at first contemplated was gained, viz., a habit of attention to metrical form was awakened and fostered, and the sense of rhythmic effect was rendered more sensitive and acute, and its practical observance became more or less habitual on the part of the player. Little things of this kind are of the first importance because they involve, in the aggregate, the germs of phrasing, style, interpretation, and expression. Finally, another benefit resulting from metrical treatment is so obvious that it hardly needs demonstration here, viz., its decided and efficient influence in developing strength and endurance where most needed by the pianist. Thus the main and characteristic feature of this method is that through the daily practice of scale, arpeggio, octave, and chord passages in all variety of forms, the entire muscular apparatus used in pianoforte playing receives its "daily bread" in a manner complete and comprehensive,—the entire practice occupying much less time than has generally been supposed indispensable where a high degree of technical attainment is intended.

## A New Method of Developing Speed.

SEC. 7. Long experience in teaching has shown that average pupils can attain speed in a much shorter time by alternating slow and fast practice, rather than by dwelling for a long time on slow motions before attempting the fast ones, as is commonly the case. Rapid playing at a very early stage of progress is extremely efficacious in building up and confirming finger and hand power, as well as correct muscular action. For rapid finger motions necessitate an independent finger action, and inasmuch as the quickness of their movements effectually prevents a joggling or jarring motion of the hand, persistent practice of this kind aids essentially in bringing about and establishing a quiet hand position, and this, too, almost unconsciously to the pupil. No fault is more common, and at the same time objectionable, than the jarring motion here referred to, for it utterly precludes the possibility of musical legato and cantabile playing. It is a very serious fault and difficult to deal with, for once acquired it adheres with persistent obstinacy, and is almost impossible to overcome. In large measure it is the result of long-continued, exclusively slow practice, aided and promoted by the wrong use of the muscles in the effort to gain strength. For the novice in attempting to increase the power and produce a larger tone, unconsciously lifts and moves the hand at every step when playing slowly, whereas all such motions ought to be vigilantly avoided so that the hand may be trained to a quiet and tranquil position while the fingers move independently, freely, and rapidly. In many instances the first seeds of this fault are sown early in childhood, for little children who get at a piano begin to pound either with the fist or with a single finger of the right hand, and naturally the impulse does not come from the finger joints and knuckles but solely from the arm. In this way they thump out bits of simple melodies from day to day and quickly contract the habit of an unsteady and unstable hand, which is so fatal an obstacle to genuine progress in later years. This fault is very rarely found to excess in the left hand, which from the beginning has been wont to play only simple accompaniments in quiet and stationary five-finger positions.

Now, the teacher is obliged to take these things as he finds them and apply the cure in as ingenious a way as he can devise. Merely telling the pupil that the hand must be held perfectly still and the fingers made to do the work independently, and showing how by practical example, seems as a rule to be of no use whatever in securing good and careful practice. Therefore the only resort is to use some artifice which will compel the pupil to exercise the right muscles unconsciously.

The author was led in this way to devise the Graded Exercise as applied to scale, arpeggio, and other passage playing. (See Sections 8 to 12 inclusive.) The velocity forms (see Section 42) were designed many years before the Graded Exercise was thought of, and with the special object of promoting and establishing a quiet hand position and independent finger action, for the impossibility of a jarring hand in such rapid movements was seen at the outset. They were constantly used and thoroughly tested in his private teaching for some fifteen years before being given to the public for the first time in his work entitled "Pianoforte Technics," published in 1876. He considers these forms, viz., Graded Exercise and Velocity Exercise, to be of vital significance, and the principle upon which they rest is the central thought of his entire method of practice.

SEC. 8. In the present work this principle meets the student at the very outset of his studies in every form to which metrical treatment is applied. After a very few preliminary performances of the passage, whether arpeggio or scale, he is immediately required to play it in a metrical gradation of rhythm, proceeding from whole-pulse rhythms to half-pulse, quarter-

pulse, and eighth-pulse lengths, at a rate of speed already corresponding in the first grade to a strong allegro. Contrary to the impression of teachers who have not tried it, young pupils arrive at the first grades of speed by this system with very little trouble, and it is only a short time before they are able to make a successful approximation to the great rapidity of the last form, Grade IV.

The principle upon which the exercise rests is that of first making the player conscious of the musical figure out of which the exercise is composed, and of the muscular motions needed in playing it. This happens in Grade I. In Grade II there is still time for deliberation as to figure and finger; in Grade III a degree of speed is at once taken, which, under the old system, is not reached until after a much longer time of preliminary study. And in Grade IV we come immediately to a speed which is great even for good players. This, in the case of beginners, may not be reached for a little time; but if the effort is persisted in, and the unerring testimony of the metronome be continually appealed to, in order that there may not be a weakening of the metrical motion for the accommodation of slow fingers, the pupil will, in almost an incredibly short time, acquire the knack of the hand and finger motions upon which fast playing depends.

SEC. 9. It will be observed that this method of velocity differs in two important respects from all other velocity practices offered students. In the first place, the musical form is very short, and is a real unity of itself, such as appeals to every latent musical intelligence. In this respect it differs from all arbitrary formulas used as motives. Second, it admits and invites development into larger and larger unities, which, as soon as formed, are just as apprehensible and comprehensible, even by young pupils, as the short forms out of which they have been composed. In this respect, again, it differs from all long passages developed out of arbitrary musical figures. Hence, at this point the student is already in a very favorable position with reference to the high degree of speed required, since the mental strain of conceiving the entire passage as a unit does not exist; the passage, when composed of arpeggios or scales, being felt as a unity by the intuitive exercise of musical intelligence of a grade requiring little or no preliminary training.

SEC. 10. Still more important, third, are the conditions under which speed is demanded in this exercise. Instead of leaving the student to "gradually increase the speed as he gains in ease," he is made here to *exactly double the speed* at the very first step. There is no question of waiting, he is to do it at once—intuitively. The metronome is ticking away, leaving no possible doubt as to what this exact doubling may mean. Then he proceeds again to double this in turn, the metronome still going on with its relentless admonition. And, finally, he doubles once more, the metronome being still the witness. In this way, besides gaining speed more rapidly than in the old way, the sense of time is strengthened to a remarkable degree.

The author has found by experience that in the old way of expecting the speed to be gradually increased, the majority of pupils continued with very slight increase of movement beyond the moderate pace which they first happened to hit as a fast form; but in the new method the mathematical relation of the fast way to the slow way immediately preceding affords the student an enormously efficient incitation, so that as soon as the sense of time becomes quickened to the true significance of the fast form, the speed is very soon attained, even in the high grades.

SEC. 11. The principle of the fast forms, Grades III and IV, is in no way different from that of the velocity exercises which were so important a feature in the "Technics," and several of his

previous works. (See Section 7.) But the *method* of making the student conscious of the high speed desired is applied in another way, and *this method is everything*. It lies at the very foundation, and affords a way by which inexperienced players can learn the knack of playing fast, and at the same time secure what is of equal importance to the later development, *the certainty of practicing their exercises in three or four degrees of speed radically different from each other*. By this diversified speed of practice alone will brilliant playing be attained.

SEC. 12. So whatever of novelty the teacher may find in these graded exercises, and however difficult they may seem for the place they occupy in every department of this system, it is hoped that they will be faithfully attempted, in careful observance of the directions appended; which being done, the author has no fears for the result. He desires simply that other teachers may find in this simple exercise the aid that he has invariably had from it in many years' experience in teaching.

### Definitions.

SEC. 13. In the course of these works it is found convenient to employ certain terms in definite meanings, which, being in part peculiar to this system, or not generally a part of the terminology of technics, need to be accurately defined.

*Time* in music includes all the elements of tone-length and duration, as also rests, pauses, holds, etc.

*Meter* is movement measured by regular pulsations divided into uniform groups or *measures*. *Measures* are made apparent to the ear by means of periodic stress or accent. Every piece regulates its motion in time by assuming a certain pattern of pulse-rapidity and a certain recurrence of accent. This continues to the end of what is called the *movement*, which is changed whenever there is a new *rate* of pulse, or a new *grouping* of pulses into measure. Meter holds the same place in the *time* of music that tonality holds in *tune*. In the same way that a movement is composed in a certain *meter*, so a melody is composed in a certain *key*; *i. e.*, all the tones in the melody are taken from a certain key, or are related to it. In like manner, all the duration and intensities in a piece are computed by reference to the meter.

*Rhythm* is the rate at which the tones of the music move, as measured against the background of the meter. Hence, rhythms are complicated to an endless degree, and it has not been found possible to form a terminology capable of expressing them clearly. In the present work the rhythms are comparatively simple, being pulse-rhythms, or half-pulse, quarter-pulse, etc., without subordinate modifications. Moritz Hauptmann says: "We call the constant measure by which the division of time is made, *Meter*; the kind of motion in that measure, *Rhythm*."

*Metrical Treatment*.—By metrical treatment is meant playing the form (that is to say, the scale or arpeggio) in a certain kind of meter (measure).

*Rhythmical Treatment*.—By rhythmical treatment is meant playing an exercise in rhythmical relation, which may be either one of two kinds, or both together:

First: The different meters may be combined in it in such a way as to show their mutual relation. This takes place in the Sequence Forms, such as those in Sections 20 and 24, in Vol. I, and in all the Rhythmic Tables, such as Nos. 2, 3, 4, etc., in Vol. II, and Nos. 6, 7, 11, 36, 39, etc., in Vol. III. These are designed to correct the common misapprehension of the exact relation existing between half-pulse, quarter-pulse, and eighth-pulse motions in the same movement.

Second: A single rhythmic motion may be taken and repeated over and over throughout the form until the rhythmus is completed by the return of the accent to the starting point. This is what takes place in all the exercises in Vol. I, especially in the sixes, nines, and other forms which are not completed upon the first performance of the pattern.

Third: Both methods may be combined in the same exercise. This takes place in all the Graded Tables, especially in those containing sixes and nines.

Rhythm, representing as it does the mathematical part of music, must enter into the playing with the exactness of mathematical proportion, and the object of rhythmical treatment is to aid in intensifying the sense of rhythm and in promoting the habit of mental concentration.

*Accent* is a stress laid upon a tone in order to indicate its relation to something else in the same connection.

*Metrical Accents* are those which mark the meter by a stress laid upon certain tones in order to indicate the boundaries of rhythmical unities. Hence two important practical considerations follow: First, the accent must be *distinct to the ear of the hearer*, and unmistakable. This is a vital point too generally neglected. Second, every rhythmic unity has two boundaries, a beginning and an ending. The hearer must be able to distinguish both these by means of accent. The end of one unity is generally the beginning of another.

*Motion-Patterns*, or simply "patterns," are outline-patterns of the *direction* which the hands take with reference to each other, in the performance of scales or arpeggios. Such are *direct* (both hands, one octave apart, moving in the same direction); *contrary* (the hands moving in opposite directions); *canon* (where one hand follows the other at a certain interval, repeating the same melody); *velocity* (the instantaneous sweep of the hands from one extreme to the other), etc. The term "practice-forms" is used for application to the different forms arising from treating the "motion-pattern" metrically. Hence every motion-pattern may afford a considerable number of "practice-forms."

## PART FIRST. ELEMENTARY TREATMENT OF TOUCH.

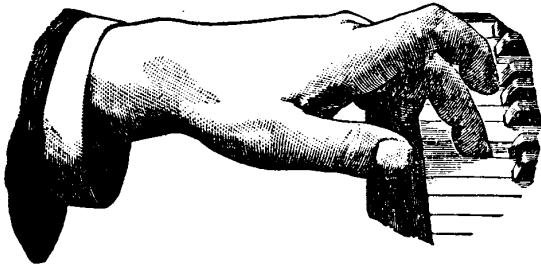
### Finger Touch. The Clinging Legato.

SEC. 14. By finger touch is meant a method of eliciting tone in which the *finger* appears more active than any other part of the playing apparatus, and as such the main instrumentality in producing the tone. Chief among finger touches is that known as the *clinging legato*, employed in cantabile passages and melody playing in general.

The clinging legato is by reason of its nature a foundation touch and "built upon a rock," so to speak. This expression, "built upon a rock," is not intended to convey any idea of rigidity, hardness, or stiffness in the touch, but, distinctly differing from that, it signifies stability, strength, repose. If applied in the right way the result will be a tone which is full, warm, and pervasive. The finger falls upon the key with decision, but free from rigidity—settles firmly down upon it with a sense of having come to stay. This steady, continued, though never rigid pressure is transferred at exactly the proper time to another key through the agency of another finger. In this way the tones are bound together, and, as it were, melt into each other, as expressed by the word *legato*, signifying to bind. Each key must be held with moderate pressure and without rigidity throughout the full time-value of the tones as indicated by the notes, but not one instant longer.

Before giving directions for the practical application of touch a few explanations are necessary. The musical examples in

Part First are confined to a compass of five degrees—from C to G. In the Material, page 21, this compass is in general extended to nine degrees—from C to D above the octave. It may be further extended at the will of the player, but such extension is not at all necessary. The exercise may and should be transposed to any key or adapted to any arpeggio or broken-chord form. But the main purpose of illustration is accomplished if the fingers are restricted to the white keys alone—thus, to the scale of C major. Hence all of the pictorial illustrations represent the fingers as being on the C position. Some of these show the second and third fingers of the left hand, while others present the fourth and fifth fingers of the right hand. It is believed that an intelligent working idea can be gained from a careful comparison of these two positions. In the directions which follow, the second and third fingers of the left hand are used for the purpose of description, and to serve as a model for the use of the other pairs of fingers. The reason these fingers are chosen for this purpose is because they show to better advantage in the plates, as in the beginning of the ascending C position. The essential point is to convey an accurate idea of the correct position and movement of the two fingers under present consideration. For the better accomplishment of this purpose the thumb, as represented in the cuts, is drawn back somewhat out of its true place, which in a five-finger or scale position would be a little further forward, extending slightly over the edge of the keys. The beginning

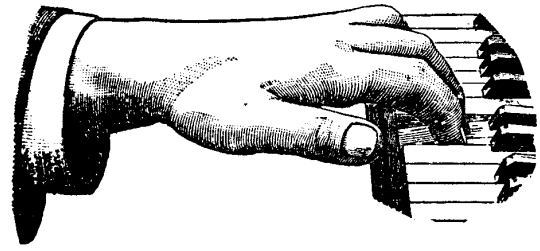
FIGURE 1, *a*.

is made with the second and third fingers, these being naturally the strongest and therefore the easiest to manage at first. As soon as the student has become familiar with the motions it is better to begin the daily practice with the fourth and fifth fingers, so that these naturally weak fingers may derive the full benefit of the freshness of first attention. It goes without saying that each pair of fingers must receive daily attention.

**Directions.**—Begin with C, of the so-called small octave, or one octave below middle C, using the hand touch for the first tone. (See Section 33.) Let the third finger of the left hand fall upon this C, the second finger being at the same time raised in a curved position as high as possible directly over D. (Figure 1, *a*.) Next, without permitting the key to rise, let the upraised finger fall with full strength on D. Both the third and second fingers are now holding down C and D, thus bringing the surface of these keys to a level. The two keys must be held down firmly, but at the same time muscular rigidity or stiffness must be carefully avoided. (Figure 1, *b*.) The third finger now slides up to the second finger on D, without permitting the D to rise, and the second finger instantaneously relinquishes its place to it and rises again as before, but this time directly over E. The finger transfer just described takes place with the quickness of thought—so quick, indeed, as to be almost imperceptible to the eye. Proceed in like manner throughout the ascending part of the exercise,—the left finger of the pair doing the clinging and sliding. In descending, this proceeding is precisely reversed, that is, the right finger of the pair does the sliding. The right hand begins on middle C, and

this rule is to be applied throughout the exercises as presented here, excepting those on the black keys.

The two-finger Diatonic Scale exercises which follow, are from the MATERIAL beginning on page 21, and they retain here the number there given them.

FIGURE 1, *b*.

A sequence in Rhythm I consists of Nos. 1, 2, 4, 6, 8, 10, and 12, all even numbers excepting the first one. A sequence in Rhythm II begins also with No. 1, which is followed by the odd numbers 3, 5, 7, 9, 11, and 13. (See pages 21 and 22.)

## FIRST GRADE.

### The Clinging Legato Touch.

First slow form. Rhythm I.  $\text{♩} = 84$ .

See Material No. 1.



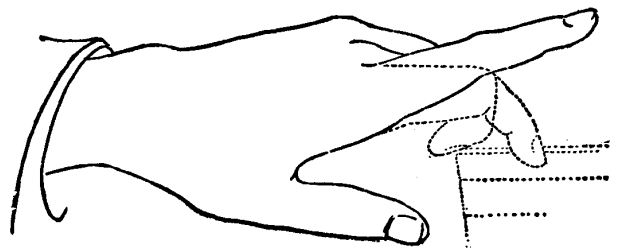
Practice also impartially and faithfully with each of the other pairs of fingers, viz.:	Right hand.	4	5-4	
		3	4-3	etc.
	1	2-1		
	Left Hand.	2	1-2	
		4	3-4	etc.
		5	4-5	

SEC. 15. This exercise can also be carried out in the chromatic scale, and upon the black keys, and in the arpeggio of the diminished seventh, as written in Nos. 46, 51, and 56.

In these, owing to the succession of black and white keys, the sliding of the following finger on to the key of the leading finger is not practicable. The fingers change upon the keys, but do not slide across from one to the other. They must, however, cling to the keys as closely as possible.

### The Finger Elastic Touch.

SEC. 16. The elastic touch, also a fundamental form, is the direct antithesis of the clinging legato, inasmuch as in its performance the finger takes the key while "on the wing," so to speak; that is, the finger strikes and sweeps the key while in the act of flexion, or in pulling toward and closing up to the hand, as represented in the following cut:

FIGURE 2, *a*.

The dotted lines represent the course of the second finger in the action of flexion. See also figures 2, *b* and *c*.

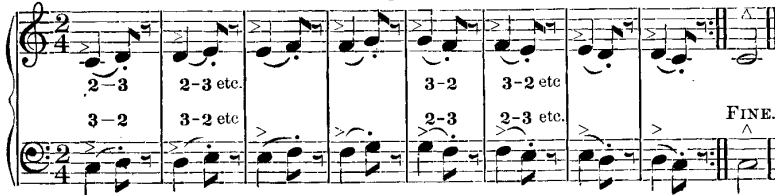
The tone produced by this touch has a buoyancy, lightness, and flexibility which is enlivening and exhilarating. The tones float and rebound, as it were, and are not dull, colorless, or monotonous. The daily and faithful use of this touch accomplishes vastly more than this, however, and its comprehensive and far-reaching influence can only be realized by experience. A position of the hand in which the fingers are arched or bowed is universally recognized as best adapted for pianoforte playing. If the muscles controlling the finger joints are weak, such a position is not possible; but by persevering day by day in the finger flexion characteristic of this touch, these muscles are thoroughly strengthened and the desired position comes as of itself, almost unconsciously to the player, who is thus relieved in great measure from the drudgery of incessantly watching the finger motions. Another important result of this constantly repeated finger flexion is the loosening of the muscles of the wrist and forearm which are used in octave playing, thus making them limber and pliable. In this connection it may be aptly termed the "infant school" of octave playing. The benefit resulting from the daily use of the elastic touch will be quickly manifested, but only by long acquaintanceship will its usefulness be thoroughly appreciated.

## SECOND GRADE.

### Clinging Legato and Elastic Touch in Alternation.

Second slow form. Rhythm II.  $\text{♩} = 96$ .

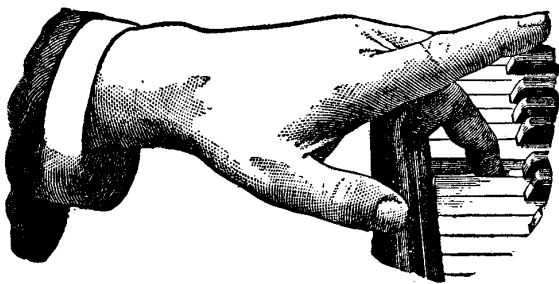
Material No. 2.



Do not neglect in practice any of the pairs of fingers.

**Practical Directions.**—Begin as before, taking small C with a hand touch with the third finger of the left hand, the second finger being at the same time raised as high as possible, directly over D. This time, however, the upraised finger, instead of having a curved position, must be extended in a straight or even rising line from the hand, as represented in the following cut:

FIGURE 2, b.

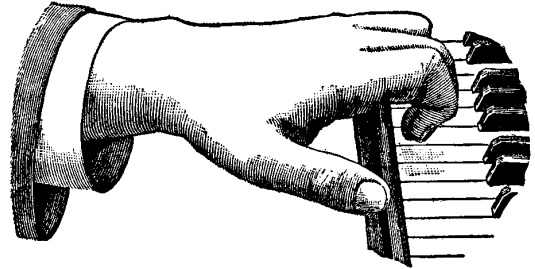


Now suddenly and vigorously flex the muscles of the upraised finger by shutting and pulling it quickly inward and with decision toward the palm of the hand, so that in the act of closing it wipes but also forcibly strikes the key D. The object in view is to secure the utmost possible flexion, or sweeping motion of the striking finger. At the completion of this elastic touch the hand remains stationary, as shown in figure 2 c, but the wrist must be entirely free—that is to say, all the necessary constriction which accompanies the forcible effort of performing the elastic touch must be suddenly relaxed.

SEC. 17. At this point the elastic touch can be applied, at the discretion of the teacher, to the chromatic scale, arpeggio of the diminished chord, black keys, etc., according to the patterns in Nos. 46, 51, 56, etc.

The legato, called also *plain* legato, is the standard and staple touch for ordinary and general use. It closely resembles the clinging legato, but in the latter touch the pressure always exceeds the natural power of the fingers, drawing somewhat from the arm, whereas in the plain legato this is not the case, but the required strength comes from the fingers alone. The

FIGURE 2, c.



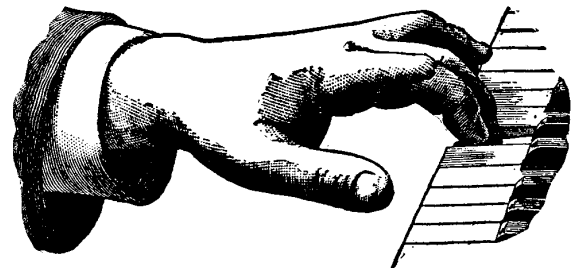
clinging legato is especially adapted to the bringing or pressing out of a full and sonorous tone in the performance of melodies. (See Section 27, with especial reference to the triceps muscle.) The legato is applicable to the accompaniments of melodies as well as to all varieties of scale and arpeggio passages.

### The Light and Fast Forms.

SEC. 18. In the clinging legato and elastic touches the exertion is considerable, being such as is proper in earnest and somewhat impassioned playing only. In order to counteract the one-sided influence which would result from the exclusive use of this method of practice, the light and fast forms will be found to be of very great importance.

In the fast forms the rhythmic pulsations are more than twice as rapid as in the forms already given, and each pair of tones is played as if constituting a single word of two syllables. The wrist is entirely limp, the hand falls a very slight distance upon the first tone of every alternate pair, and the second or every fourth tone is played with the least possible finger motion, with a slight drawing inward of the point of the finger on leaving

FIGURE 3.



the key. The value of this exercise does not turn upon the amplitude or intensity of the motions, but upon their clearness, quickness, flexibility, and lightness.

The fingers, instead of being raised high, as in the slow forms, must be held close to the keys in order to favor rapidity of motion, for there is no time for superfluous motion in a degree of speed which is hardly exceeded by the quickness of thought. (See figure 3 for illustration of hand and finger position suitable to this touch.) The mental grouping of the tones will be promoted, as also the correct motions for the touch, by a preparatory moderato form like the following:

### THIRD GRADE.

#### Legato and Mild Staccato Touches in Alternation.

For the sake of abbreviation the exercises which follow hereafter are written out only on the right hand part of the staff. The left hand plays uniformly one octave below the right. Fingering above the notes for the right hand and below for the left.

First moderato form. Rhythm I. ♩ = 138.

Material No. 4.

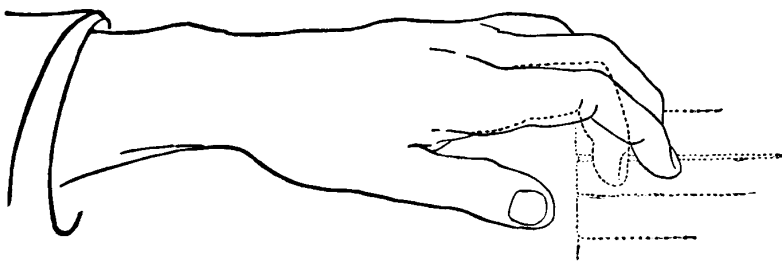
Right Hand. 2 3 2 3 etc. 3 2 3 2 etc. FINE.

Left Hand. 3 2 3 2 etc. 2 3 2 3 etc. An octave lower than written.

**Caution.**—Be careful to give the rests their entire value.

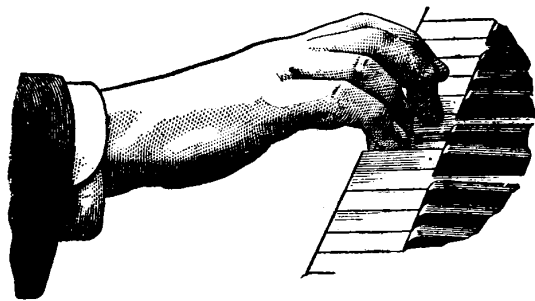
SEC. 19. The mild staccato touch is a modified form of the elastic. This touch detaches or separates the tones in accordance with the degree and rapidity with which the fingers are

FIGURE 4, a.



flexed. There are other kinds of staccato touch which consist in partially contracting the muscles of the hand or wrist, and by means of which short and crisp tones may be produced; but as these are of minor importance in connection with the two-finger exercise, they do not receive attention here, further than to remark that in all of them the attack alone is made, without the pressure. Two kinds of the mild staccato touch, differing but slightly, are used in the two-finger exercise. The most important and useful of these is effected by a slight and almost imperceptible flexion of the finger-tips at the moment of contact with the key. This sliding or caressing touch is exceedingly effective in the performance of very rapid passages, the tones resulting therefrom being so uniformly and distinctly clear and musical as to suggest the simile of a "string of pearls." This has given rise to the expression, a "pearly touch." In the performance of very rapid scale and arpeggio passages, and also as used in the velocity form, the degree of finger flexion is so

FIGURE 4, b.



slight as to be hardly perceptible to the eye. The other form of the mild staccato is used in passages of such extreme rapidity as to preclude the possibility of finger flexion, and is effected by moving the finger by means of the metacarpal joint. To attempt to illustrate these forms of touch by a picture is not easily practicable, but some idea may be obtained from figures 4, a and b.

In figure 4, b, the fourth and fifth fingers of the right hand are represented merely for the sake of variety.

To acquire the mild staccato touch requires in the beginning more of a mental effort, and it is well to keep the general idea of finger flexion in mind during a part of each practice hour, and to apply it in different degrees, not only to the fast forms of the two-finger exercise, but, where it may be employed to advantage, to rapid scale and arpeggio passages as they occur in pianoforte pieces. One of the most efficient aids in mastering this touch is the daily and continued practice at short intervals of the following old-fashioned exercise. Try to play rapidly and make each and every note clear, crisp, and distinct. The degree of finger flexion will of course, vary in accordance with the different rates of speed. See figure 4, a, illustrative of the finger flexion adapted to this exercise.

Acc. of 12s. Right hand. Ascending. Acc. with 4th or 5th finger.

4 3 2 1 4 3 2 1 etc.  
5 4 3 2 5 4 3 2 etc.

a

4 3 2 1 4 3 2 1 etc.  
5 4 3 2 5 4 3 2 etc.

Left hand. An octave lower.

Acc. of 12s. Descending.

Right. 4 3 2 1 4 3 2 1 etc.  
5 4 3 2 5 4 3 2 etc.

b

Left. 4 3 2 1 4 3 2 1 etc.  
5 4 3 2 5 4 3 2 etc.

Descending.

The best and most complete results accrue from the varied accentual treatment of this exercise, for by such treatment each finger is compelled in turn to put forth a greater degree of muscular action than its fellows. In this way a habit of attention to the most rudimentary principles of dynamics is engendered, a differential touch is fostered, and matters of light and shade, by means of rhythm, meter, emphasis, etc.,—all necessary factors of a finished style of phrasing and interpretation,—are gradually assimilated and cultivated up to a point of artistic development. The following examples illustrate in some degree the variety of forms which result from accentual treatment:

Acc. of 4s. Acc. with 4th or 5th finger.

Right. 4 3 2 1 4 3 2 1 etc.  
5 4 3 2 5 4 3 2 etc.

c

Left. 4 3 2 1 4 3 2 1 etc.  
5 4 3 2 5 4 3 2 etc.

Left hand.

Acc. of 4s. Acc. with 3rd or 4th finger.

Right. 4 3 2 1 4 3 2 1 etc.  
5 4 3 2 5 4 3 2 etc.

d

Left. 4 3 2 1 4 3 2 1 etc.  
5 4 3 2 5 4 3 2 etc.

Right hand. Acc. with 2nd or 3rd finger.

Right. 4 3 2 1 4 3 2 1 etc.  
5 4 3 2 5 4 3 2 etc.

e

Left. 4 3 2 1 4 3 2 1 etc.  
5 4 3 2 5 4 3 2 etc.

Left hand.

Acc. with 1st or 2nd finger.

Right. 4 3 2 1 4 3 2 1  
5 4 3 2 5 4 3 2

f

Left. 4 3 2 1 4 3 2 1  
5 4 3 2 5 4 3 2



Faithful practice of the foregoing exercises secures to each finger an equal amount of discipline. The practice may be varied by working a part of the time on the following exercise. Apply similar treatment to groups of 8, thus :

Right. Acc. with 4th or 5th finger.  
 4 3 2 1 4 3 2 1 4 etc.  
 5 4 3 2 5 4 3 2 5 etc.

Left. 4 3 2 1 4 3 2 1 4 etc.  
 5 4 3 2 5 4 3 2 5 etc.

h Right. Acc. with 3rd or 4th finger.  
 4 3 2 1 4 3 2 1 4 etc.  
 5 4 3 2 5 4 3 2 5 etc.

Left. 4 3 2 1 4 3 2 1 4 etc.  
 5 4 3 2 5 4 3 2 5 etc.

i Right. Acc. with 2nd or 3rd finger.  
 4 3 2 1 4 3 2 1 4 etc.

Left. 4 3 2 1 4 3 2 1 4 etc.  
 5 4 3 2 5 4 3 2 5 etc.

j Right. Acc. with 1st or 2nd finger.  
 4 3 2 1 4 3 2 1 4 etc.  
 5 4 3 2 5 4 3 2 5 etc.

Left. 4 3 2 1 4 3 2 1 4 etc.  
 5 4 3 2 5 4 3 2 5 etc.

Apply the accent in similar fashion to all forms of triple and compound triple measure. Many other figures are well adapted for similar treatment, especially the following, viz.:

Right. 4 3 2 1 etc.  
 5 4 3 2 etc.

Left. 1 2 3 4 etc.  
 2 3 4 5 etc.

and also Right. 4 3 2 1 etc.  
 5 4 3 2 etc.

Left. 1 2 3 4 etc.  
 2 3 4 5 etc.

In fact, these are more easily played than the others, because in more comfortable hand position. They should be practiced in ascending as well as descending form.

### Legato and Mild Staccato Touches in Alternation.

Second moderato form. Rhythm I. Acc. of 4s.  $\text{♩} = 138$ .  
 Right. 2 3 2 3 etc. 3 3 2 3 2 etc.  
 Left. 3 2 3 2 etc. 2 2 3 2 3 etc.

Material No. 6. FINE.

### FOURTH GRADE.

First fast form. Rhythm I. Acc. of 8s.  $\text{♩} = 96$  to 120.  
 Right. 2 3 2 3 etc.  
 Left. 3 2 3 2 etc.

Material No. 8. FINE.

Second fast form. Rhythm I. Acc. of 16s.  $\text{♩} = 96$  to 120.

Right. 2 3 2 3 etc.  
 Left. 3 2 3 2 etc.

Material No. 10. FINE.

Practice all of these and the following forms a part of the time with the mild staccato touch exclusively. (See Section 19, figures 4, a and b.) Do not neglect the legato touch.

Third fast form. Rhythm I. Acc. of 12s.  $\text{♩} = 96$  to 120.

Right. 2 3 2 3 etc. 2 3 3 2 3 2 etc.  
 Left. 3 2 3 2 etc. 3 2 2 3 2 3 etc.

Material No. 12. FINE.

Apply various degrees of force to all of these fast forms, as well as to the moderato forms. Play many times in succession *forte*, then *mezzo*; afterward *piano* and, finally, *pianissimo*, as delicately as consistent with clearness, accuracy, and precision. Play rapidly, lightly, and delicately. Practice also with uniform distinctness and elasticity. Be sure that the accent on the first part of each measure is unmistakable.

Another very useful way of practicing is to make a well-graded and continuous crescendo throughout the ascending passage and a corresponding diminuendo in descending. Do not hurry the time while making the crescendo. Give equal attention to the legato and to the mild staccato touches.

Apply also to other melodic formulas, such as Nos. 28, 33, 86, etc.

### Sequences for Daily Practice.

SEC. 20. The best possible results of the daily practice will be attained only when the different varieties of touch have been combined in the proper proportion and the due balance maintained between slow and rapid playing—the former conducting to strength and certainty, and the latter to lightness, celerity, and brilliancy. In effecting combinations of this kind it is to be observed as an invariable rule that slow movements make the best possible preparation for the fast ones which are immediately to follow. Repose is induced, and inaccuracy and slovenly execution avoided. The skilful trainer of a horse, on taking the animal out for exercise, permits him to walk or trot slowly for a while, in order to “warm him up” gradually, before putting him to the top of his speed. The muscles in this way receive the best and most thorough preparation.

After the movements of the fingers become thoroughly facile, natural, and easy, much of the time may advantageously be given to the fast forms, as is more fully explained in the directions for sequences following. Remember, also, that to play rapidly does not mean to play hurriedly. Hurry in playing must be vigilantly and unremittingly avoided. Quietness of motion, and complete repose in action, must invariably be the rule, even in the swiftest movements. In order to assure the proper combination of forms and grades of speed in the daily practice, the sequence pattern has been devised, the general plan of which is illustrated in miniature in the short exercise following :

SEQUENCE MODEL.—This is much the best form for beginners. When thoroughly mastered, extend the compass so that it embraces nine tones, as in the examples which follow later on,

where the two-finger exercise is applied to the diatonic scale. Repeat the following exercise throughout the four grades several times in succession without interrupting the time.

### THE FIRST RHYTHM.

#### Sequence Model. Rhythm I.

Right hand. 1st slow form.  $\text{♩} = 76 \text{ to } 100$ . Material No. 1, in half notes.

Left hand. 2nd slow form.

Moderato form.

Fast form.

In order to avoid any interruption in the regularly succeeding grades of speed, the following form has not been included in the foregoing sequence. It is of great use, however, on account of the close connection effected between the two fingers, and it has a strong tendency to improve the legato touch. It is especially useful for beginners and children, as it facilitates their binding of the two tones. It is, therefore, added as a supplement to the series.

Fast form. Material No. 4, in 16th notes.

### THE SECOND RHYTHM.

SEC. 21. By "second rhythm" is meant a reversal of the order of touches as well as accents in the two-finger motive. In this second rhythm the accent falls upon the staccato tones with which the measure begins, and is made by the flexion finger. In the first rhythm the accent is made in large degree by the arm and shoulder. In the second rhythm it is produced mainly by the flexion of the finger, though the mechanism of the muscles differs somewhat.

Observing this difference, the directions given for the two varieties of touch used in the second slow form of Rhythm I will suffice for the corresponding touches in Rhythm II.

SEC. 22. The two fundamental forms of touch which have just been described are of equal importance, and should receive daily attention. The practice of either one of them separately and to the exclusion of the other, if persisted in for any length of time, would doubtless prevent the most favorable results. When used in companionship they compensate and assist each other, and there is brought into action a correlative and reciprocal influence which prevents the preponderance of either extreme. The hammer-like touch proceeding from the metacarpal joints has its use and can not be altogether dispensed with; but the hard, harsh, and unsympathetic tones it produces when used exclusively will be made tender and beautifully sympathetic by subjecting it, in proper degree, to the softening and mollifying influences of the elastic principle.

SEC. 23. The slow, moderato, and fast forms for the second rhythm here follow. The touches are precisely similar to the same forms in the first rhythm, excepting that they are reversed and the place of the accent is changed.

### Forms of Exercises for Rhythm II.

#### Clinging Legato Touch and Elastic Touch in Alternation.

Second slow form. Rhythm II.  $\text{♩} = 96$ .

Right. Left.

Give each pair of fingers faithful practice.

First moderato form. Rhythm II.  $\text{♩} = 138$ .

Right. Left.

Second moderato form. Rhythm II.  $\text{♩} = 138$ .

Right. Left.

First fast form. Rhythm II. Acc. of 8s.  $\text{♩} = 96 \text{ to } 120$ .

Right. Left.

Second fast form. Rhythm II. Acc. of 16s.  $\text{♩} = 96 \text{ to } 120$ .

Right. Left.

Third fast form. Rhythm II. Acc. of 12s.  $\text{♩} = 96 \text{ to } 120$ .

Right. Left.

FINE.

The second rhythm may also be carried out at this stage in other melodic formulas, such as Nos. 29, 31, 50, etc.

### Sequence Model for Rhythm II.

SEC. 24. Rhythm II is to be carried out in sequence forms corresponding to those already given for Rhythm I. The following is the pattern. Repeat several times in steady time:



1st slow form.  $\text{♩} = 76 \text{ to } 100$ .  
 Right hand. Material No. 1, in half notes  
 Left hand.

2nd slow form. Material No. 3.

Moderato form. Material No. 7.

Fast form. Material No. 9.

Not included in the preceding, but extremely useful for practice. (See the final exercise in Section 20.):

Fast form. Material No. 4, 16th Notes.

SEC. 25. The student having faithfully mastered the various touches thus far given, and having learned how to combine them into sequences, may, at the discretion of the teacher, be directed to practice the individual forms and sequences in any of the melodic formulas given in the Material, Nos. 1 to 74.

The consideration of advanced elements of touch, according to the directions upon the following pages, may be deferred several months, or even longer, at the discretion of the teacher. They should, however, all be mastered before completing the fourth grade of studies, after which they should enter into the daily practice in fair proportion, according to the needs of the individual pupil.

## PART SECOND. ADVANCED ELEMENTS IN TOUCH.

SEC. 26. **The Triceps.**—For many years the writer has been conscious of elements of touch which were not explained in any of the works upon piano technics known to him. These, moreover, were precisely those elements which impart character and nobility to the tone, and are the main dependence of the artist in all moments of serious, elevated, and earnest playing. Some of them were formulated and embodied in the earlier editions of "Touch and Technic," under the name of Arm Touches, and most of them he had been in the habit of using in his private teaching for many years previously.

More recently, however, he has been able to arrive at nearly the precise muscular action entering into one of the most im-

portant and universally employed of these elements of touch, the details of which are here explained in print for the first time, to the best of his knowledge.

Still retaining the left hand on the arm, produce a tone on the keyboard by means of a pushing touch of this kind, making the contraction brief, and leaving all the muscles relaxed. The contraction of the triceps will be felt as before.

Now, removing the left hand, produce a strong touch in the same manner as before, and if the sleeves are not too loose, the motion of the triceps muscle will be visible to the eye.

Finally, producing tones in the same way, try to realize the contraction of the triceps by the muscular sense alone, which will not be difficult after a few trials.

These experiments progress logically. First, the player *feels* the throbbing of the triceps with his hand; then he *sees* it with his eyes; and, finally, he becomes conscious of it by the muscular sense alone.

**The Scapular Muscles.**—The scapular or shoulder muscles, situated in the shoulder blades or upper back, exert an important influence in the production of a full, sonorous and musical tone. Elasticity and freedom of movement in these muscles will tend to dispel all harshness of tone. In order to develop them any exercise consisting of large detached chords, such as exercise 112, Volume IV, page 23, may be used. Play at a moderate rate of speed. Briskly close the fingers on the keys of each chord with a sudden push and a determined shrug of the shoulders, followed by immediate and complete relaxation. If done in the right way, this exercise will be found peculiarly invigorating and refreshing, as it brings all the muscles of shoulder, arm, and hand into brisk action and full co-operation.

SEC. 27. The highest service which the proper use of the arm and shoulder muscles renders is in the capacity of a guide, for their influence quickly "leavens the whole lump" of the muscular system; it penetrates, pervades and vitalizes the entire action, and accomplishes more in bulk and in detail in the development of a temperamental touch than is possible in any other way. The feeling of restraint common to most players at a certain stage is quickly counteracted and overcome, and a sense of suppleness, ease, and repose takes its place. Playing ceases to be a labor and becomes a joy. The relaxed and limber condition of all the muscles gives a rare sense of exhilaration; the whole muscular movement becomes at once free and powerful, like the flight of a bird.

As applied to the "Clinging Legato" touch (see Section 14,

FIGURE 5.



portant and universally employed of these elements of touch, the details of which are here explained in print for the first time, to the best of his knowledge.

The triceps muscle is located upon the outer part of the upper arm, a little nearer the elbow than the shoulder, as shown by the hand in the illustration. Its action may be traced as follows:

Place the left hand on the upper right arm, as shown in figure 5. Then, with the fingers of the right hand resting lightly on a table or keyboard, give a slight push, the impulse coming from the upper arm, followed by a complete relaxation

Vol. I) the triceps and scapular muscles are exceedingly useful when that touch, as is commonly the case, draws upon the arm for the elastic quality; also in all forms of the up-arm touch and in all cantabile passages when the tone is produced without preliminary raising of the fingers; also in all tones produced by a springing motion backward from the keys.

It is the neglect of this entire class of touches which renders the technic developed solely by finger-falls so dry, inoperative, and unsatisfactory as concerns character. It is desirable that the pupil should become familiar with this element in touch very early in the course of instruction.

## ARM TOUCHES IN GENERAL.

SEC. 28. Although artists have always and necessarily drawn upon the forces of the arm in bravoura and brilliant passages, as well as in all melody playing involving a deep and broad tone, the true functions of the arm have not been recognized and formally stated, so far as known to the author, until the publication of the present work in 1889. There are three typical conditions of arm in touching, which, from the exertions most easily securing them, may be called the "down-arm," the "up-arm," and the "relaxed" or "devitalized" arm.

SEC. 29. THE DOWN-ARM.—By "down-arm" touch is meant that fall of the arm in which its weight supplies the force actuating the keys.

PREPARATORY EXERCISE.—Let the pupil turn away from the keyboard and permit the hand to lie upon the lap, resting near the knee. Then, with an impulse from the upper arm, throw

FIGURE 6, a.

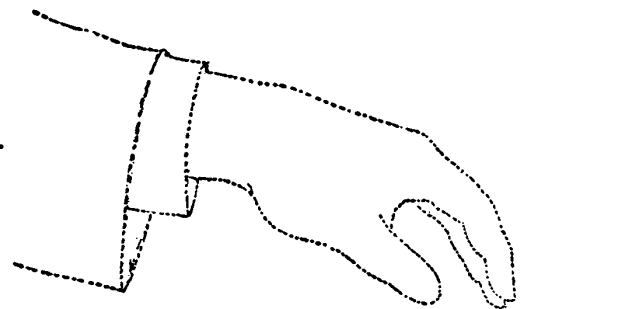
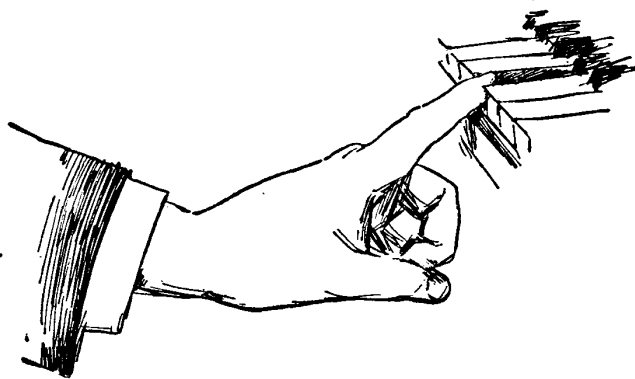


FIGURE 6, b.



the hand upward to a height of perhaps six inches, permitting it to fall back again of its own weight, exactly as a ball turns again and falls to the earth after having been thrown upward into the air. This limp fall of the arm is the condition sought in the down-arm touch.

PRACTICAL EXERCISE.—Turning back to the keyboard, let the hand be extended above the keys at a height of perhaps three inches, as represented by the dotted lines in figure 6, a. Then by act of will "let go," withdraw the will from the muscles, and the arm will fall inert, limp, freely of its own weight, exactly as it did in the preparatory exercise, or as if in the condition com-

monly known as "asleep." The second finger extended—each finger should be used in turn—touches C, thus breaking the force of the fall, and immediately after the touch is delivered, the wrist in turn relaxes into a perfectly limp condition, and the hand sinks into the position shown in figure 6, b.

The force is always that of the weight of the arm, which falls but is never struck down upon the keys.

Having gained complete control of this touch the distance of the hand-fall must be lessened by degrees until the space through which it falls is only a quarter of an inch, or even less. Preserve carefully the same limp, muscular condition and add to the weight of the arm by a push, the impulse of which has its origin in the *triceps* muscle in the upper arm, and can easily be traced to that source by means of the *muscular sense*.

This form of touch is useful in many heavy effects, and the condition of arm is an indispensable preparation for securing proper development of finger power in later exercises.

Two ways of practicing this exercise will be found advantageous.

First Way:—Play according to exercise c, the wrist sinking into the second position, figure 1, b, at the count "two." Here it remains until time to be ready for the next following touch.

Second Way:—Playing according to d, the wrist sinks immediately after the touch is made, there being no perceptible interval of holding between the attack and the relaxation of wrist. This is the proper manner of making the touch; the first way is recommended as preparatory merely. This is a one-finger exercise, but each finger may be exercised in turn.



SEC. 30. THE UP-ARM.—The "up-arm" touch is so named because in making it the arm seems to spring boundingly into the air away from the keyboard, and when properly

FIGURE 7, a.

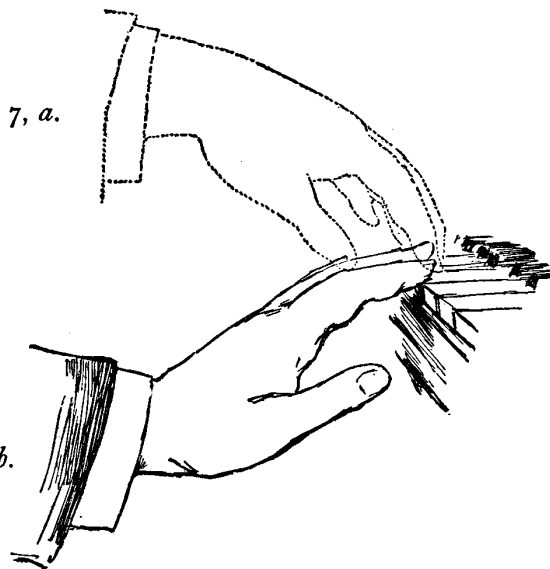
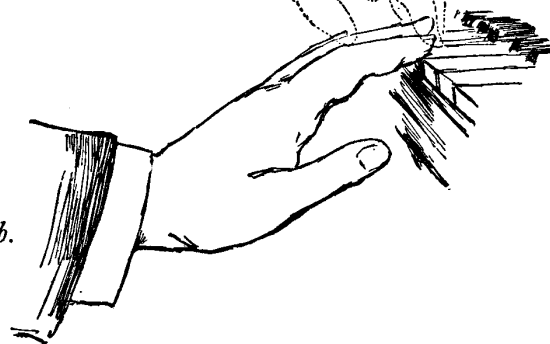


FIGURE 7, b.

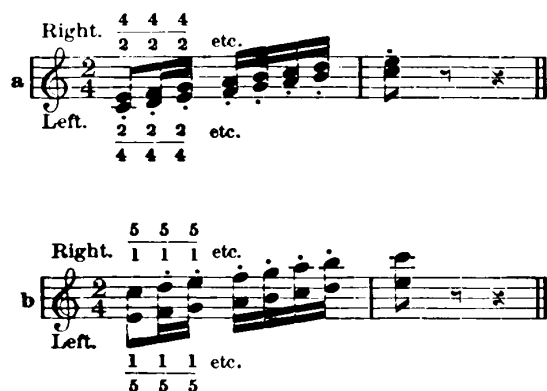


made there is no sense of having delivered a finger-blow downward upon the keys.

PREPARATORY EXERCISE.—Place the second finger upon middle C, the point resting upon the key but without in the slightest depressing it, as shown by the dotted lines in figure 7, a. Merely feel the key with the finger, and in this sensitive but inoperative contact retain it throughout the preparatory exercise.



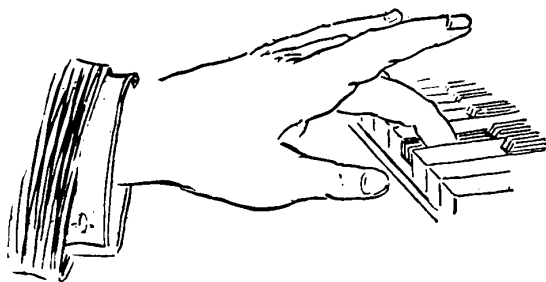
impulse originates in the arm. If the arm is held rigid, the hand touch degenerates into the false form frequently taught, as mentioned in the preceding section (33). Descend also.



SEC. 35. ANOTHER METHOD.—Mr. E. M. Bowman has devised yet another method of attacking the first tone of the exercise for elastic touch. It is called the stabbing touch, from the method in which the finger springs out to make the attack. The following description is in his own language:

PREPARATORY POSITION. (To secure right distance from the keys.)—Place finger on key in position shown in figure 8, *a*. In this position it will be observed that the wrist and three joints

FIGURE 8, *a*.



of the finger are very slightly bent, so that the impression will be that from the finger-tips to the elbow the arm follows a large circle. This position yields the largest percentage of muscular control and elasticity.

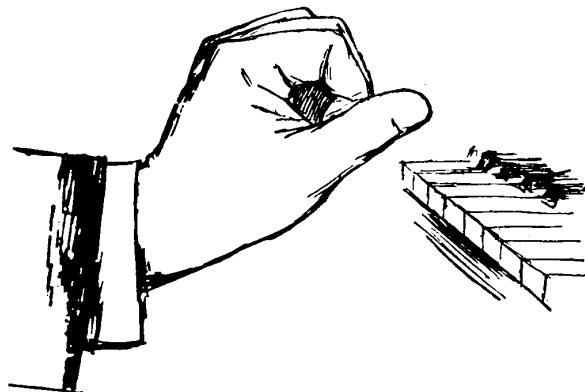
POSITION TO ATTACK.—Keeping the arm from the wrist upward, firmly but without stiffness in the same position as above, close the fingers to a fist form, bending the hand at the wrist-joint upward and backward as far as possible. Close the fist rather loosely, but bend each joint, assuming the position of figure 8, *b*. The hand is now ready for the attack. Summoning all the energy, the key is to be attacked by returning, with the utmost power and quickness of action, to the preparatory position described above—figure 8, *a*. In this action, therefore, the wrist and three joints of the finger will be opened or extended to a nearly straight, “very slightly bent” position; the finger-tip will engage the key near the front end as if to slide along it—a glancing attack. The motion is to be very quick, the opening of the finger and thrusting it upon the key following so rapidly one upon the other as to constitute but a single act.

CAUTION 1.—Do not extend the fingers prior to the action at the wrist, else the attacking finger will fall vertically on the key with a percussive effect. This must be avoided; the glancing attack is an important feature for the reason that it concentrates an effort on the flexor muscle of the nail-joint which speedily strengthens that joint in the development of a virile touch, and

fortifies it against the collapse common to weak fingers. Indeed, this application of the two-finger exercise was invented to conquer that very weakness. It need not be added that it is also an extremely valuable aid in the development of a versatile touch.

Until strong enough to resist collapse, time should be taken after each attack to flex the finger back into the “slightly

FIGURE 8, *b*.



curved” form directed in Preparatory Position. This is imperative. It is the speedy way of preventing the collapse altogether.

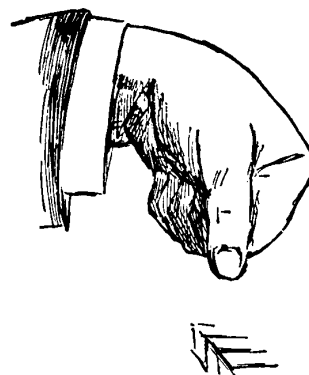
Conclusion.—In returning to the “fist” position, figure 8, *b*, for the next attack, the contiguous finger is to complete the phrase by means of a mild form of the elastic staccato, like that described under figure 2, only less vigorous. This act and the pause between attacks, with loosely closed fist, constitute the period of recuperation preparatory to the next onslaught.

CAUTION 2.—The arm during the attack *must not move, but remain firmly in its place*. Its only function is (*a*) to supply an immovable support to the hand during the attack and (*b*) to carry the hand laterally to the next key. Owing to the necessity of time for recuperation after the vigorous effort incident to this touch, the metronome movement of about 52 to a quarter is recommended as on the whole advisable.

Apply to musical example No. 2.

SEC. 36. An exaggerated form of the elastic touch should be frequently used in practice; it produces excellent results.

FIGURE 9.



In this exercise the flexion is not confined to a single finger or pair of fingers, but in delivering the blow the whole hand is quickly and tightly closed in the form of a fist. The muscles of the wrist are also included in the act, and as the blow is completed the hand is drawn in toward the arm, causing

the wrist to rise slightly, assuming the position shown in figure 9. This full and complete flexion is especially effective in certain chord passages, and produces a quality of tone attainable in no other way. (See p. 23, Vol. IV, of "Touch and Technic.")

*Observation on the Relative Value of the Touches.*—The question will naturally occur to the new student of the system as to which of these different manners of playing the elastic touch exercises is to be preferred. To this the answer is, *all are to be practiced*. At first the arm forms are to be used, for one or two lessons, or longer if the pupil does not readily fall into the free uses of the wrist and arm therein employed. Then the hand touches with the finger elastic are to be taken, and both forms carried forward together for one or two lessons. When these are well done, Mr. Bowman's stab touch may be added, since it is intended to reinforce the strength and endurance of the fingers to a desirable degree. The extreme flexion, shown in figure 9, is only for partial application; but used moderately it has an admirable effect, and gives a firmness and grasp to the touch beyond that of any of the preceding forms of touch.

Perhaps a good way of dividing the practice would be for the slow forms to be played twice through with the arm elastic touches; then twice through with the hand and finger elastic; then once with the Bowman "stab" touch, and once through with the extreme flexion shown in figure 9.

SEC. 37. PUSH AND PULL.—From another point of view all varieties of piano touch may be classified as those produced by a "push" or a "pull," according to the manner in which the fingers attack the keys. The orthodox finger touch is properly a "push" touch, since it is made by a sort of push of the finger.

Opposed to this are all forms of the elastic touch, to be hereafter described; they all partake of the character of a "pull," the touch being effected by means of a drawing-in of the fingers toward the hand. In strict mechanical accuracy all touches must be produced by means of some sort of a blow upon the keys, in which the elastic touches are included as well as those which have the general aspect of "push" touches. But there is such a radical difference *between* the condition of the levers and the muscles actuating them when the touch is delivered in the form of a "blow" or "push"—and a touch of similar amplitude produced by the corresponding form of the "pull" touch,—that the student can not too soon learn to distinguish the one from the other. In all forms of the "pull" touch, the levers of the hand and arm are disposed in lines well suited to elasticity; and at the same time the muscles are in a corresponding condition of elastic and vital tension. The touches, therefore, immediately show their differences in the resulting tone-quality.

The daily and long-continued use of the elastic touch results in such a habit of muscular suppleness, pliancy, and flexibility, that the hardness of tone-quality characteristic of the rigid hammer-touch will never be unduly manifested, because tempered by a counteracting influence.

In certain forms of immaturity of touch, where there is a distinct lack of positiveness, the push form may be assumed for a little time, since in this form the impulse comes so unmistakably from the upper arm that a positive tone-quality follows almost immediately upon the effort to produce it in this manner. Just as soon, however, as the desired positiveness of tone-quality has been attained, the elastic types of touch must be resumed in the practice, because in them are involved all the peculiarly musical qualities of the playing.

## PART THIRD. MATERIAL.—VARIOUS FORMS OF THE TWO-FINGER EXERCISE FOR PRACTICE.

The following examples illustrate the application of the two-finger principle to various melodic formulas, such as the diatonic scale, broken thirds, double thirds, chromatic scale, the black keys, arpeggio of the diminished seventh, double sixths, and octaves. Only a small proportion of the exercises resulting from metrical treatment of these various melodic formulas are here presented. The teacher will find it easy to devise a great variety of forms following in general the patterns given in Nos. 1 to 74.

The system of treatment is alike in all, excepting that the exercises in broken thirds are almost universally treated legato instead of being phrased in the usual two-finger manner. This affords a variety of finger-training, taking the place of the five-finger forms once so popular.

The slow forms are played with elastic finger or arm touches and with breadth, dignity, and depth. All the fast forms are to be played after the manner described in Section 18. The movement may be faster or slower, at pleasure of the teacher; but the general character of looseness, lightness, and crispness is always to be maintained. It is of the utmost importance that the practice be varied not alone in speed and by the selection of various forms, but also in degrees of force, tone-quality, and expression.

### EXPLANATION OF THE EXERCISES.

SEC. 38. The two-finger exercise is so named because its application is confined to two fingers at a time, and these are

used in pairs. The corresponding pairs in both hands are used together, thus:

Right hand, . . . . .	1-2	2-3	3-4	4-5
Left hand, . . . . .	2-1	3-2	4-3	5-4

Each hand should be exercised separately as well as both hands together.

This method of using the fingers in pairs may be adapted to an almost endless variety of scale and arpeggio passages, but as used in this work the application is confined mainly to the white keys of the pianoforte—thus, to the scale of C major. Examples are also given of its manner of application to the chromatic scale and to the black keys of the instrument. All of the exercises excepting the first appear in two rhythms, which, for the purpose of classification, are called Rhythm I and Rhythm II. These two rhythms seem at first sight to be very nearly alike. In reality, one is quite the reverse of the other, and necessitates a different action of the muscles. It will be observed from the names of the different forms comprising the series which follows, that a graduated increase in the rate of speed is included in the general design, viz.:

No. 1 is the first slow form, and is designed exclusively for the clinging legato touch.

Nos. 2 and 3, Rhythms I and II, are included in the second slow form and vary as to rhythm. They are intended for the use of the clinging legato and the elastic touches in alternation.

Nos. 4, 5, 6, and 7, Rhythms I and II. These are moderate forms, but in their use the rate of speed may be varied in accordance with the player's judgment.

Nos. 8\* to 13 inclusive, Rhythms I and II, are fast forms, varied in measure by means of accentual treatment.

Nos. 14, 15, and 16 are in triple measure and combine both rhythms. They should be practiced at various rates of speed.

Nos. 17 to 22 inclusive, Rhythms I and II, with derivatives, are velocity forms.

No further directions are necessary than to urge the distinct indication of the time by especially accenting the tones which fall on the first part of the measure.

## BIRD'S-EYE VIEW OF THE TWO-FINGER EXERCISES.

SEC. 39. The present volume contains the two-finger exercises applied as follows:

1. The Diatonic Major Scale, . . . . . Nos. 1 to 22
2. Diatonic Broken Thirds, . . . . . Nos. 23 to 40
3. Diatonic Double Thirds, . . . . . Nos. 41 to 45
4. Chromatic Scale, . . . . . Nos. 46 to 50
5. Black Keys, . . . . . Nos. 51 to 55
6. Diminished Seventh Chord, . . . . . Nos. 56 to 64
7. Diatonic Sixths, . . . . . Nos. 65 to 69
8. Octaves, . . . . . Nos. 70 to 74

Other exercises for two, three, and four fingers:

9. Graded Shake- or Trill-Exercise, . . . . . Nos. 75 to 78
10. { The Mordent, } . . . . . Nos. 79 and 80  
       { The Inverted Mordent, }

Of these, classes 1 to 5 belong to the two-finger series proper; classes 6 to 8 belong to the octave school, having for their more immediate object the training of hand-solidity, and so of octaves and chords, as distinguished from finger facility, which has more immediately to do with passage work and melodic playing.

The student is cautioned against undertaking too many of these exercises in the practice of a single day. The thorough practice of the exercises of any of the first five classes, carried out in sequences of one or both rhythms (see Section 20) will be enough for one day. This will occupy from seven to ten minutes in all, carrying each pair of fingers in turn through the sequence selected. If octave preparation is desired, a similar sequence may be founded upon one of the classes, 5, 6, or 7. A sequence of this kind will add about four minutes more to the total time required in this department of the practice, and the student thus arranging his daily work will presently find that not only has he gained immeasurably in facility, and in depth, sweetness, and quality of tone, but that he has also acquired the entire technical apparatus for fine phrasing, in consequence of which he will be able to play, in an attractive manner and with very little difficulty, compositions which previously had seemed uninteresting or at least difficult.

## MANNER OF PRACTICE.

SEC. 40. The best results depend altogether upon the manner and quality of practice. In this connection three conditions are of special importance and must invariably be observed. These are:

\* No. 8 (without accentual treatment) was a favorite of Liszt and Tausig, and constantly used by them in daily practice. Liszt frequently recommended its use to his pupils, especially as applied to the chromatic scale. The idea of increasing its usefulness by applying different kinds of touch, and presenting it in rhythmic forms, as also by means of accentuation, occurred to the author of this work some forty years ago, and he has since then kept it in constant use in his private teaching, invariably with the most beneficial results. (See Introduction.)

1st. THE SAME PAIR of fingers must be carried throughout the entire SERIES before beginning with another pair.

2d. Strictly observe the ORDER in which the exercises succeed one another.

3d. Apply the RIGHT TOUCH to each form.

The first condition is in order that one and the same set of muscles may receive full treatment before beginning with another set. The treatment consists of very slow motions followed by a gradually increasing rate of speed until the maximum degree is attained in the velocity forms. This course insures the most orderly development of elasticity and the muscular power of endurance.

The second condition is in accordance with the same principle of passing by gradations from slow movements to fast ones. The third condition is a matter of course. It goes without saying, too, that strict accuracy in keeping time is absolutely and invariably necessary.

The musical examples in the preceding part of this work are confined to the white keys, and, with four exceptions, to a compass of five degrees, extending from C to G inclusively. These short forms, or models, are both easily understood and admirably adapted for purposes of illustration and practical application. Progress in skill and facility will be much more rapid and complete if beginners, as well as those who are novices in the two-finger exercise, confine themselves to these abbreviated forms until they have been diligently practiced and *thoroughly mastered*. The compass may then be increased to nine degrees, —thus from C to D above the octave, as is the case with the exercises which follow under the heading of "MATERIAL," "Two-Finger Exercises, Diatonic Scale," beginning on page 21. All of these forms may and should be transposed to any key, or adapted to any arpeggio or broken-chord exercise, and the pictorial illustrations in the letter-press part of the work, although all representing the C position, will serve equally well for transpositions.

The compass of the exercises in the "MATERIAL" may be yet further extended at the will of the player, and made to embrace two, three, four octaves, or more.

## HOW TO PRACTICE SEQUENCES.

SEC. 41. The sequence is to be carried out with each pair of fingers in turn, at first beginning with the stronger fingers, every day; but not forgetting to apply to the weak fingers a larger number of repetitions of the entire sequence. Sometimes better results are obtained by beginning the daily practice with the weak fingers. Observe that it is an integral part of this system to carry one pair of fingers entirely through the sequence, with all its grades and repetitions, before taking up another pair of fingers.

It is not expected that children and beginners will be able immediately to accomplish the four grades of speed completing a sequence. At the outset, and for a while, three will suffice until the fingers have gained in power and adaptability. The tempo of the slow grades may be taken a little more rapidly in such cases, but the exact ratio between the grades must be scrupulously observed from the very first. The fourth grade should be introduced, however, at the earliest moment possible.

*Note Concerning the Broken Thirds.*—The broken thirds afford finger discipline in two different directions, and in order that the student may not miss either of them he will do well to vary the manner of constructing the sequences upon them. For example, by taking a sequence composed of Nos. 23, 24, and an eighth-note form of No. 28, followed by No. 28 itself, phrased in pairs, the finger- and touch-training will be of the



same kind as in all other forms of these exercises, with the important addition of separating the fingers. A sequence composed of No. 23, played as it is, and quarter-note and eighth-note forms of No. 28, followed by No. 28 itself, all played with the pure finger legato, clinging in the slow forms and lighter in the fast forms, will be found to possess all the advantages of the venerable "five-finger exercises" so highly esteemed by many teachers. In his own teaching, the author has generally made use of a combined form of sequence, composed of Nos. 44, 45, and 49, carried out in two degrees of speed, and as if written first in eighths and then in sixteenths.

### Exercises Nos. 17 to 22 Inclusive. Velocity Forms.

SEC. 42. A well-known proverb warns us that "haste makes waste;" another one cautions us to "make haste slowly," while a third urges and incites us to action, viz., "nothing risked, nothing won." These adages are in nowise conflicting or contradictory. They all express truths of equal importance, and the aim must be to accomplish their happy union in action and practice. Having passed by gradation from slow motions to fast ones, it is next in order to increase the speed to such a degree as to involve a positive risk in each effort. In the slow forms each single movement of the finger, or each separate tone produced by the finger-blow, may be called the unit of thought. As the speed is increased, the unit of thought includes a group of motions or tones, and these groups grow larger by degrees. A group of tones or series of motions is, therefore, in this sense a unity, and is practically carried into effect as by a single volition. In the velocity forms here used, the smallest group consists of five notes. The germ of this principle has already been foreshadowed in the first moderato form of the two-finger exercise, Rhythms I and II, which contain two notes in each group. (See Musical Exercises at the end of Sections 18, 20, and 24.) Before making the attempt to play, let the thought run through the entire group, concentrating itself on the final note; or, in other words, take aim at the final key of the group as at a target. Remember that the effort is in the nature of a risk, and rush ahead accordingly. If a failure occurs, try again from the beginning. Precautions were in order when practicing the slower forms, but now risks must be taken. There is no time to stop and aim over again in the middle of the passage. It is like throwing a stone at an object a short distance away. The direction of the stone cannot be changed after it leaves the hand. Nor in the act of jumping does one first take the leap and afterward, while passing through the air determine the place of alighting. The eye distinctly takes in the objective point before undertaking the jump. The preparation, the aim, and the effort constitute the unit of thought. While, however, a positive risk is taken, and without hesitation, be careful to avoid any blurring or telescoping of the tones intervening between the first and last ones of the groups, each and every one of which must be perfectly distinct. In practice, these groups are to be repeated many times in succession, *taking care to observe the rests between the groups*. The importance of these rests can hardly be overestimated, not only in the oppor-

tunities they afford for discipline in increasing the feeling for strict accuracy in time-keeping, but because they give time for the mental concentration which should necessarily precede the act about to follow.

Place the hand in position. Take aim at, and fix the thought mainly on, the final key of the group. Take the leap,—giving a secondary thought to the intervening keys,—and snap the finger off of the last one, using the extreme elastic touch, as accomplished by complete finger-flexion. Probably success will not be achieved until after repeated trials. But remember the proverbs and try again. Persistence, if *careful* and not *thoughtless*, will succeed in the end. (See Section 7.)

### The Mordent and Inverted Mordent Exercises.

SEC. 43. Particular attention is requested to the Mordent and Inverted Mordent exercises. (See Material, page 28, Nos. 79 and 80.) These are to be practiced both as two-finger and as three-finger exercises, and especially in the latter form they are wonderfully serviceable in limbering, individualizing and strengthening the fingers and particularly the metacarpal joints. On account of the position which they here occupy,—being on the last page of the book,—they are liable to be overlooked and their great usefulness may easily be underestimated; the author therefore wishes especially to emphasize the fact that he regards them as being fully as important in their way as any exercise in this work. Those who practice them in detail with patience, persistence, and perseverance, although for comparatively a short time each day, will be surprised and gratified at the results attained, for their beneficial influence in finger and hand movements can hardly be overestimated.

### Relation of these Exercises to the Technic of Phrasing.

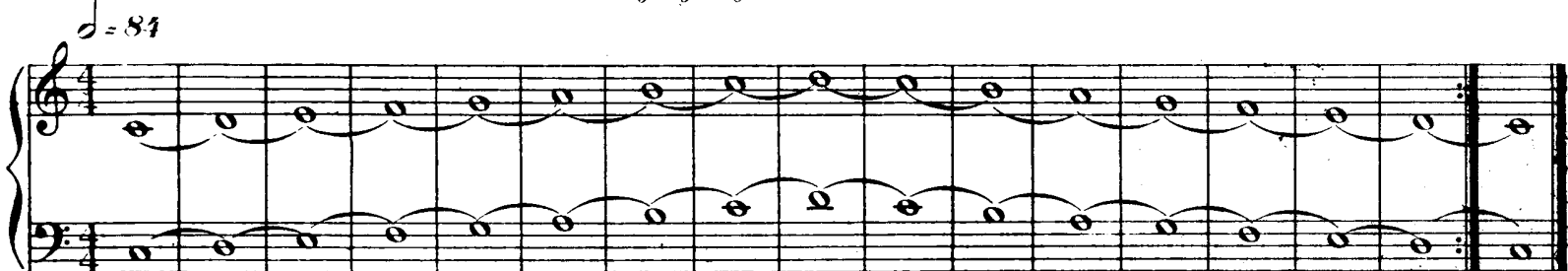
SEC. 44. The attentive student will presently observe that the different touches comprised in these exercises afford the technical resources necessary for artistic phrasing. It is literally true that they furnish precisely the training of hand and finger in the different manners of attacking, sustaining, and finishing tones, in order to effectively phrase all kinds of artistic music. In fact, they fully accomplish this vital and indispensable part of pianoforte training. It is for this reason, mainly, that their daily practice can never be dispensed with for any considerable time.

In assigning the lesson, it will suffice for the teacher to indicate the melodic form and the rhythm. Hence the direction "Diatonic Scale, Rhythm II," would indicate a sequence composed of Nos. 1, 3, 7, and 9. The direction "Broken Thirds, Rhythm II," would indicate a sequence composed of Nos. 23, 25, and 29, the latter in two grades of speed. "Chromatic Scale, Rhythm I," would indicate a sequence of Nos. 46, 47, 49, half as fast as written, and 49 as it stands. The sequence so indicated the pupil is to carry through all pairs of fingers and in all varieties of touch, and with the number of repetitions indicated in the table of practice above.

## Two finger exercises. Diatonic Scale.

Exercise No 1. First slow form. *The clinging legato touch.*

See Sections 14 &amp; 15



For the sake of abbreviation the exercises which follow are written out on the right hand part of the staff.

The left hand plays uniformly one octave below the right, beginning on c of the small octave. Fingering above the notes for the right hand and below for the left.

No 2. Second slow form. *Rhythm I. Clinging legato touch and Elastic touch in alternation.*

See Secs. 16 &amp; 17

No 3. Second slow form. *Rhythm II.*

See Secs. 16 &amp; 17.



To avoid crowding the plates the application of the other three pairs of fingers is here omitted, but on no account must they be neglected in practice. See Sec. 10.

No 4. First moderato form. *Rhythm I.*

See Secs. 18 &amp; 19.



Caution. Be careful to give the rests their entire value in both exercises, Nos. 4 and 5.

No 5. First moderato form. *Rhythm II.*

See Secs. 18 &amp; 19.

No 6. Second moderato form. *Rhythm I.*

See Secs. 18 &amp; 19.

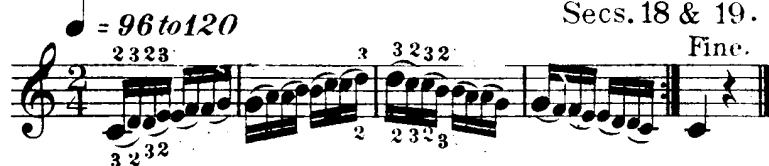
No 7. Second moderato form. *Rhythm II.*

See Secs. 18 &amp; 19.





Nº 8. First fast form. *Rhythm I. Acc. of 8<sup>s</sup>*  
*Secs. 18 & 19.*



Nº 9. First fast form. *Rhythm II. Acc. of 8<sup>s</sup>*  
*Secs. 18 & 19.*



Practise all of these and the following forms a part of the time with the Mild Staccato touch exclusively. See Sec. 15, and the outline cut at the end of that Section. Do not neglect the Legato touch.

Nº 10. Second fast form. *Rhythm I. Acc. of 16<sup>s</sup>*  
*Secs. 18 & 19.*



Nº 11. Second fast form. *Rhythm II. Acc. of 16<sup>s</sup>*  
*Secs. 18 & 19.*



Apply various degrees of force to all of these Fast forms, as well as to the Moderato forms, Play many times in succession forte; then many times mezzo; afterwards piano, and finally pianissimo, as delicately as consistent with clearness, accuracy and precision.

Nº 12. Third fast form. *Rhythm I. Acc. of 12<sup>s</sup>* Secs. 18 & 19.



Another very useful way of practising is to make a well-graded, and continuous *crescendo* throughout the ascending passage and a corresponding *diminuendo* in descending. Do not hurry the time while making the *crescendo*. Give equal attention to the Legato, and to the Mild Staccato touches.



Play rapidly, lightly and delicately; also with uniform distinctness and elasticity of touch, but with an unmistakable accent on the first part of each measure.

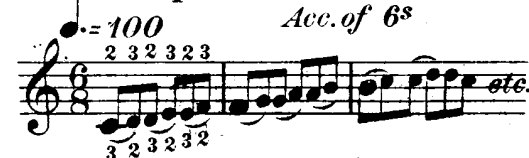
Nº 13. Third fast form. *Rhythm II. Acc. of 12<sup>s</sup>* Secs. 18 & 19.



Nº 14. Triple measure.



Nº 15. Compound double measure.



Nº 16. Compound triple measure.



Triple measure combines both Rhythms I and II. Likewise Compound double, and Compound triple measure.

# MATERIAL.

## Velocity forms.

23

### No 17. First velocity form. *Rhythm I*. Sec. 42.

$\bullet = 156$

The rests in Nos. 17 and 18 are of especial importance. Carefully observe their full time value.

### No 18. First velocity form. *Rhythm II*. Sec. 42. In the application of Rhythm II., observe throughout all of the velocity forms the change of fingers on the first two notes of each group.

### No 19. Second velocity form. *Rhythm I*. Sec. 42.

$\bullet = 172$

### No 20. Second velocity form. *Rhythm II*. Sec. 42.

### No 21. Third velocity form. *Rhythm I*. Sec. 42.

### No 22. Third velocity form. *Rhythm II*. Sec. 42.

In the following exercise the fingers cannot be raised high before striking as in Exercise No 1. Be careful to sustain the tones their full value, so that there always will be two keys held down, except during the infinitesimal time required for moving a finger as quickly as possible from one key to the next.

### No 23. Diatonic broken thirds. First slow form. *The clinging legato touch*. See Secs. 14 & 15.

$\bullet = 84$

In playing this exercise the pupil should have in mind the simultaneous movement of two voices in each hand's part.

### No 24. Second slow form. *Rhythm I*. Secs. 16 & 17.

$\bullet = 96$

### No 25. Second slow form. *Rhythm II*. Secs. 16 & 17.

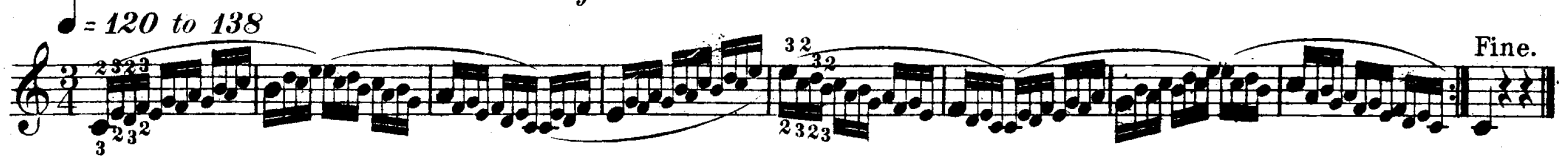
### No 26. First moderato form. *Rhythm I*. Secs. 18 & 19.

$\bullet = 96$

### No 27. First moderato form. *Rhythm II*. Secs. 18 & 19.

No 28. First fast form. *Rhythm I. Acc. of 8<sup>s</sup>*No 29. First fast form. *Rhythm II. Acc. of 8<sup>s</sup>*

The directions interlined on page 14 are equally applicable to exercises 28 to 32 inclusive.

No 30. Second fast form. *Rhythm I. Acc. of 16<sup>s</sup>*No 31. Second fast form. *Rhythm II. Acc. of 16<sup>s</sup>*No 32. Third fast form. *Rhythm I. Acc. of 12<sup>s</sup>*No 33. Third fast form. *Rhythm II. Acc. of 12<sup>s</sup>*No 34. Triple measure. *Acc. of 3<sup>s</sup>*

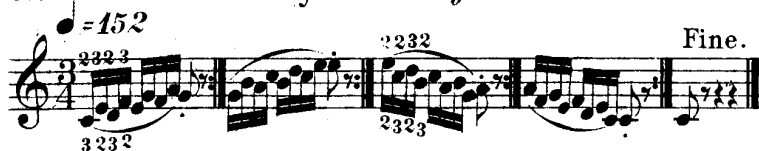
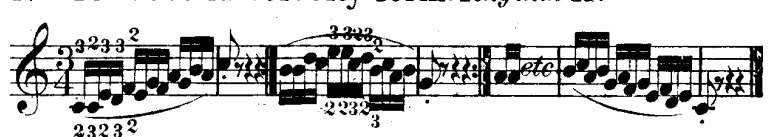
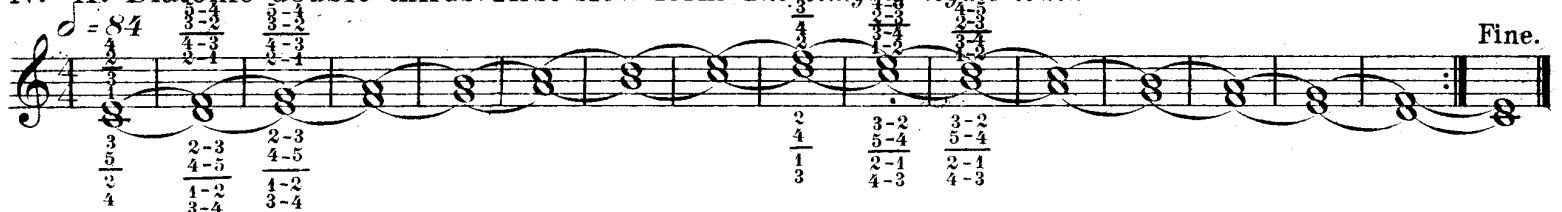
## No 35. Compound double measure.



## No 36. Compound triple measure.



## Velocity forms.

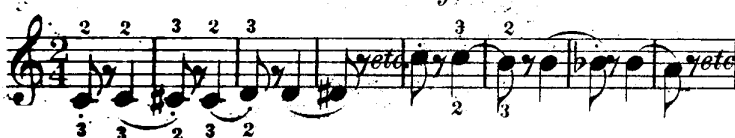
No 37. First velocity form. *Rhythm I.*No 38. First velocity form. *Rhythm II.*No 39. Second velocity form. *Rhythm I.*No 40. Second velocity form. *Rhythm II.*No 41. Diatonic double thirds. First slow form. *The clinging legato touch.*

Nº 42. Second slow form. *Rhythm I.*Nº 43. Second slow form. *Rhythm II.*Nº 44. First fast form. *Rhythm I.*Nº 45. First fast form. *Rhythm II.*

To be followed by all varieties including velocity forms. To be applied also to diatonic double sixths.

## Chromatic Scale.

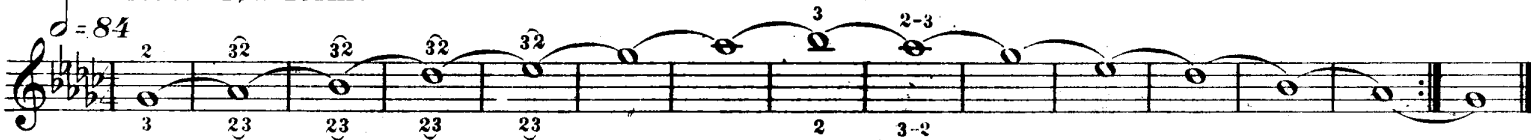
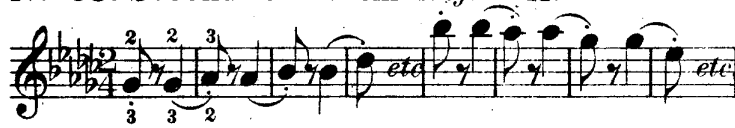
Nº 46. First slow form.

Nº 47. Second slow form. *Rhythm I.*Nº 48. Second slow form. *Rhythm II.*Nº 49. First fast form. *Rhythm I.*Nº 50. First fast form. *Rhythm II.*

To be applied also to chromatic broken thirds; chromatic double thirds, major and minor, and chromatic double sixths, major and minor, etc. Velocity forms must be included.

## Two-finger exercise applied to the black keys.

Nº 51. First slow form.

Nº 52. Second slow form. *Rhythm I.*Nº 53. Second slow form. *Rhythm II.*Nº 54. First fast form. *Acc. of 8<sup>s</sup> Rhythm I.*Nº 55. First fast form. *Acc. of 8<sup>s</sup> Rhythm II.*

To be followed by all varieties including velocity forms.

## Arpeggio of the Diminished Seventh.

It sometimes happens that the hand motions in the two-finger exercise are more easily acquired from the arpeggio of the diminished chord than from scale passages.

No 56. First slow form. *The clinging legato touch.*



No 57. Second slow form.

*Rhythm I.*



No 59. First moderate form.

*Rhythm I.*



No 61. First fast form. *Fingering as before.*

*Rhythm I.*



No 63. Another fast form. *Fingering as before.*

*Rhythm I.*



No 58. Second slow form.

*Rhythm II.*



No 60. First moderate form.

*Rhythm II.*



No 62. First fast form. *Rhythm II.*



No 64. Another fast form. *Rhythm II.*

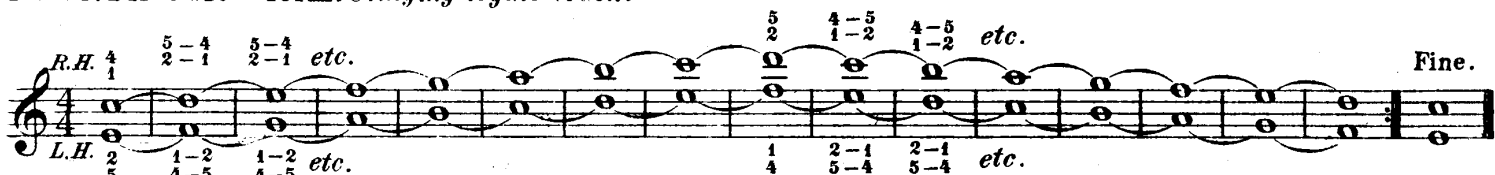


Apply these exercises to all other derivatives of the diminished Seventh. See Vol. III. "Touch and Technic," page In many cases the correct hand motions will more easily be attained in these forms than in those derived from the scales. Moreover, the different degrees of separation in the fingers, in the various positions, afford most excellent discipline to the touch.

## Double Diatonic Sixths.

Double Diatonic Broken Sixths, although not given here, should be practiced in corresponding forms to those of Diatonic Broken Thirds. (See No's 23 to 40.)

No 65. First slow form. *Clinging legato touch.*



No 66. Second slow form. *Rhythm I. Elastic touch.*



No 68. First fast form. *Rhythm I.*



No 67. Second slow form. *Rhythm II.*



No 69. First fast form. *Rhythm II.*



The same patterns may be adapted to the major and minor chromatic sixths, at the discretion of the teacher, or the ambition of the student.

## Two finger exercises in Octaves.

**No 70. First slow form.** *Clinging legato touch in the upper voice of the right hand, and lower voice of the left hand. The thumb as legato as possible.*

**No 71. Second slow form.** *To be practiced with the Arm touches and with Hand and Finger Elastic. (Sec. 3.)*

*Rhythm I.*

**No 72. Rhythm II.**

**No 73. First fast form.** *With light touch, devitalized.*

*Rhythm I.*

**No 74. Rhythm II.**

## Graded shake or trill exercise.

**Directions.** Observe strict time in passing from one grade to the next. The tendency will be to play too fast in the slow grades and too slowly in the fast ones. Practice with each pair of fingers in turn, also with different fingers in alternation, thus { *R.* 1.3.2.4 } and { *L.* 2.4.3.5 } also { *R.* 1.2.4.3 - 2.3.2.4 - 3.4.3.5 } and { *L.* 4.2.3.1 } { *R.* 5.3.4.2 } { *L.* 2.1.3.4 - 3.2.4.3 - 4.3.5.3 }

**No 75. Beginning with the lower tone.**

The touch which in the beginning is bold, firm and decisive, becomes supple and elastic when the fast grades are reached.

**No 76. Beginning with the upper tone.** Above fingering also in reversed order, thus, *R.* 4.2.3.1 and *L.* 5.3.4.2 also 3.4.2.1 etc. etc.

**No 77 Velocity forms.** Apply the principal forms of fingering given for the Mordent and Reversed Mordent. See next page.

Velocity forms must also be practiced beginning with the upper tone of the trill.

**No 78.** Adapt the trill exercise to each and all of these forms using the fingering indicated above.

Apply also the following fingering to *b.d.e.f.g.* *R.H.* 1.3.1.3 - 2.4.2.4 - 3.5.3.5  
*L.H.* 3.1.3.1 - 4.2.4.2 - 5.3.5.3

# The Mordent and the Inverted Mordent (See Sec. 43)

These embellishments, with many others of similar character are of frequent occurrence in the works of Bach and his contemporaries. They may be played with two or with three fingers in alternation. When only two fingers are used the manner is as follows

## No. 79. The Mordent. (M)

Right hand. *same fingering.*

Left hand. *same fingering.*

## No. 80. The inverted Mordent. (M)

R. H. *same fingering.*

L. H. *same fingering.*

Other fingerings are possible and sometimes useful, viz; *Mordent.* R. H. 121-131-141-151 || L. H. 212-313-414-515 || *Inverted mordent.* R. H. 212-313-414-515 || L. H. 121-131-141-151

At No. 79. *a.* the alternation is between two adjacent white keys; at *b.* between a white key and the next black key to the left; at *c.* between a black key and the next white key to the left; at *d.* between two neighboring black keys while *e* differs from *b* inasmuch as the former is a major, and the latter a minor second. No. 80 is the reverse of No. 79 and will be easily understood without further explanation.

It is however very much better to use three fingers rather than two in playing these embellishments, as thereby free and off-hand muscular action is greatly facilitated. On examination of the following tables for fingering, it will be seen that there are thirty-two different ways indicated. If these are brought fully under control by careful practice the result will be great facility of muscular movement in the joints of the fingers, metacarpus and wrist, extending by means of the extensor and flexor muscles to the elbow, and even to the shoulder, when properly played. Some of the varieties tend in a great degree to facilitate the passing of the thumb under the fingers and hand, and altogether they exercise a far-reaching and comprehensive influence over most of the muscles used in Pianoforte playing, developing strength, agility and speed, combined with suppleness and elasticity. All of the various fingerings should be thoroughly mastered, but if this task seems too formidable let the student, at the very least, get easy control of the few forms which are in most general use viz;

*Mordent.* R. H. 312-321-123-423-435  
L. H. 132-231-312-

*Inverted mordent.* R. H. 132-213-231-243-143  
L. H. 321-213-312-324-431

The following tables show thirty-two different ways of fingering the *Mordent* and the *Inverted mordent*. The *Mordent* M See example No. 79.

### Beginning with the thumb or 1st finger.

R. H. 123-124-125-134-135-145  
L. H. 132-142-152-143-153-154

### Beginning with the 3rd finger.

R. H. 312-314-315-321-324-325  
L. H. 312-314-315-341-342-351-352-354

### Beginning with the 5th finger.

R. H. 512-513-514-521-523-524-531-534-541  
L. H. 512-513-514

### Beginning with the 2nd finger.

213-214-215  
231-241-251-213-214-215-243-253-254

### Beginning with the 4th finger.

412-413-415-421-423-425-431-435  
412-413-415-451-452-453

The inverted Mordent M See example No. 80.

### Beginning with the thumb or 1st finger

R. H. 132-142-143-152-153-154  
L. H. 123-124-134-125-135-145

### Beginning with the 3rd finger.

R. H. 312-314-315-341-342-351-352-354  
L. H. 312-314-315-321-324-325

### Beginning with the 5th finger.

R. H. 512-513-514  
L. H. 512-513-514-521-523-524-531-534-541

### Beginning with the 2nd finger.

231-241-251-213-214-215-243-253-254  
213-214-215

### Beginning with the 4th finger.

412-413-415-451-452-453  
412-413-415-421-423-425-431-435

How to Practice: These exercises like all other velocity forms, should be practiced in the order observed in the following examples. At *a* there is a long silence between each repetition of the figure. At *b* the interval of rest is much shorter, and at *c* the figure is repeated in somewhat rapid succession. Each effort is immediately succeeded by an instantaneous relaxation, followed by a re-construction of the muscles, which takes place during the pause. Be very careful to give the rests their full time value and during this interval of silence, make careful mental preparation for the next effort. Always keep strict time.